THE RAILWAY GAZETTE
A Journal of Management, Engineering and Operation
INCORPORATING
Railway Engineer · TRANSPORT · The Railway News
The Railway Times · Herapath's Railway Journal · RAILWAY RECORD.
RAILWAYS ILLUSTRATED · ESTABLISHED 1835 · The Railway Official Gazette

33, TOTHILL STREET, WESTMINSTER, LONDON, S.W.1.

Telephone : WHItehall 9233 (12 lines) Telegrams : "Trazette Parl, London"

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BRISTOL: 8, Upper Berkeley Place, Clifton . . . . *Bristol 21930*

Annually £4 10s. by post. Single copies, Two shillings.
Registered at the G.P.O. as a newspaper. Entered as second-class matter in U.S.A.

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Vol. 101] FRIDAY, NOVEMBER 12, 1954 [No. 20

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British Railways as Manufacturers

THE suggestion in the White Paper on railway reorganisation that the main mechanical engineering workshops of the British Transport Commission might, with advantage, be formed into a separate central service was taken up by several speakers in the debate in the House of Lords last week. Lord Lucas of Chilworth pointed out that the Commission is the largest manufacturing concern in Great Britain. The standardisation of many items of railway equipment has added some force to the argument for centralisation. There is an obvious advantage in making items common to all Regions in one workshop rather than manufacturing smaller quantities in each Region. The saving on tooling costs, apart from the probable lower average cost per item in a longer production run, is evident. The 19 major mechanical workshops of the Commission are, as a result of over five years' increasing standardisation and centralisation under the Railway Executive until the abolition of that body last year, accustomed to working in close conjunction. The several drawing offices frequently have contributed their individual quota to a design which has eventually been built by another works, and have acted, in general, as branches of a single organisation. The final move in that direction would be to set up a central mechanical engineering service such as that hinted at in the White Paper. On the other hand it is not yet known what effect the reorganisation scheme will have on Regional practice in mechanical engineering. There are some 120 subsidiary depots for carriage and wagon repairs which it might be hard to fit into a manufacturing scheme. There is the major question of locomotive and carriage and wagon building by private firms. A proportion of British Railways passenger and freight vehicles is built by outside firms, which also play a large part in the manufacture of British Railways electric and diesel motive power. As to steam locomotives, which now, with a few exceptions, are being built by British Railways in their own works, some of the new construction might well be transferred to private builders. This would provide an element of stability in the fluctuating demands placed by overseas railways on British locomotive manufacturers, give them a steady flow of work, and so enable them to retain their skilled labour and, by spreading their overhead costs, quote lower export prices. Much depends on the decisions on forms of motive power adopted in future development of British Railways.

Winter Freight Traffic Prospects

THE inland transport position has been reviewed by the Winter Transport Central Joint Conference, set up three years ago to enable representatives of industry and commerce in consultation with the British Transport Commission to review on a national level the prospects for inland transport during a period when traffic peaks are apt to coincide with bad weather. The Conference works through a Central Committee on which the Regions of British Railways, and British Road Services and Inland Waterways are represented, and has established District Committees to deal with any local difficulties. Some increase is expected in coal and mineral traffic, but railway wagon supply and motive power seem adequate, though the staff position in key operating and motive power grades is still acute in areas where other industries compete for labour. Despite sales of B.R.S. vehicles, their basic organisation will remain in being and they will be ready to help the railways if difficulties arise; the vehicles sold are normally taken over by private undertakings, and the capacity they represent is likely to be still available. Inland waterways expect to have spare capacity. The Conference agreed that, given reasonable weather, the freight transport available this winter should be adequate, but decided to keep the situation under review and arrange for District Committees to meet as required.

Passenger Train Punctuality in July-August

THE combined statistics for all Regions of British Railways of passenger train punctuality for the four weeks ended August 14, published in the current issue of *British Railways Magazine* and embracing the August bank holiday and some other weekends when holiday traffic was at its peak, are melancholy reading. Of steam-hauled expresses, only 41·2 per cent arrived on time, against 47·4 per cent for the corresponding period of last year, and 62·2 per cent (67·8) arrived within 5 min. of booked time; the corresponding figures for electric expresses, which would be mainly Southern Region, are 58·9 per cent (65·4) on time, and 87·9 (89·4) within 5 min. of booked time. "Other trains" made a better showing: 80·9 per cent (82·5) of electric, and 75 per cent of diesel trains, shown separately this year, arrived on time. The low proportion of punctual arrivals in the overall figures doubtless is caused mainly by late running at weekends; it would be interesting to see figures for Monday to Friday running, when, incidentally, a good many schedules are tighter, though it is a pity to accept as inevitable a lower standard of punctuality at weekends. As it is now the policy to encourage emulation between Regions, the figures for all the Regions might well be shown separately in all the Regional issues of *British Railways Magazine*.

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The Hindi Language on Indian Railways

INTRODUCTION of Hindi on the railways in the Republic of India has already made progress. A provisional list of Hindi equivalents of words in common use in passenger stations and goods depots has been circulated to the railway staff; and the work of standardising name boards and notices on railway premises is now in progress. The preparation of lists of railway terms in Hindi is in progress. Nearly one-quarter of the work has been completed and suggestions have been sent to the Ministry of Education for approval by the Board of Scientific Terminology. All the six railways except the Southern publish Hindi timetables which are now being examined to secure uniformity of language. It had also been decided to bring out an All-India Hindi timetable valid from October 1, 1954. The Hindi section in the Railway Board replies in Hindi to letters in that language; it also helps the Board in translating official documents into Hindi. The railways have been instructed to set up machinery for replying in Hindi to letters, and in areas where Hindi is spoken or understood, to circulate proceedings of the Regional and Zonal Railway Users' Consultative Committees in Hindi as well as in English.

Overseas Railway Traffics

SOUTH African Railways & Harbours railway receipts showed a steady rising tendency throughout August and September, and remained above the 1953 figures by a considerable margin. For the week ended August 7 receipts were £2,228,875, compared with £2,164,546 last year, and by the week ended October 2 they were £2,630,805, against £2,353,877 last year. Aggregate receipts from April 1 to that date were £61,855,406, compared with £54,452,897 for the corresponding period of 1953. The weekly averages for 1954 and 1953 to October 2 were £2,335,632 and £2,056,150 respectively. Harbours and airways show aggregate increases of £452,709 and £581,542 respectively over the corresponding period for last year. Dorada Railway receipts for June were £31,353, rising to £33,749 in July. There was a fall to £30,995 in August and a recovery to £31,308 in September, when the aggregate from January 1 amounted to £296,750. The corresponding figure for 1953 was £330,212, so that the decrease for the year to September was £33,462.

The Last of the Narrow Gauge in Ulster

NORTHERN IRELAND will lose its last remaining narrow-gauge line if the proposed closure of the Londonderry-Strabane line of the Ulster Transport Authority is authorised. Londonderry used to boast that it was served by four railways, one more than Belfast, but henceforward it will have only the 5-ft. 3-in. gauge main lines from Belfast of the U.T.A. via Coleraine and the Great Northern Railway via Enniskillen. The last section of the 3-ft. gauge Londonderry & Lough Swilly closed last year. Victoria Road, the Londonderry terminus of the Strabane line, is, like that of the main U.T.A. line, situated on the east side of the Foyle; the G.N.R. keeps on the west side from Strabane to its own Foyle Road terminus. The Londonderry-Strabane line, opened in 1904 by the Donegal Railway Company, was vested in the then Midland Railway, Northern Counties Committee, in 1906. It thus became a Midland, and later an L.M.S. outpost in Ireland, finally passing to the U.T.A., as successor to the N.C.C., in 1949. At Strabane it connects with the still fairly extensive 3-ft. gauge system operated by the County Donegal Joint Committee.

Recovery of Sulphur from Fuels

THAT the recovery of a higher proportion of sulphur from coal and petroleum was in the interests of national economy, was emphasised at a recent conference of the Institute of Fuel which was opened by Sir John Maud, Permanent Secretary, Ministry of Fuel & Power. The main source of indigenous sulphur is that contained in coal, amounting to over three million tons a year, sulphur in petroleum represents another 600,000 tons, and from this it is hoped to recover some five per cent. The gas industry recovers 40 per cent of the sulphur of its coal by effective means and a number of large-scale flow methods are now available, but there are doubts as to their suitability for British conditions and their operating costs. A higher recovery of sulphur is desirable, since not only does this country import some 75 per cent of its requirements, but action is made more pressing by the deleterious effects of sulphur in industrial processes, to buildings, and to health, by oxides of sulphur emitted to the atmosphere.

Road Haulage and Railwaymen

A SUGGESTION that railwaymen could not know too much of the methods of their principal competitors, the road hauliers, was made by Major-General G. N. Russell, Chairman of the Board of Management of British Road Services, in a paper read before the Berks., Bucks., & Oxon. Section of the Institute of Transport recently. The most important distinction between the two forms of transport, he says, is the mobility of road transport. The load is mobile from the time it is loaded until the time it is unloaded. There is no intermediate handling, no complicated shunting, and no time is lost in terminal operations. Railways should be used to the full where terminal time is of little significance in relation to tonnage and haul, and new techniques should be developed to allow rail and road to be used in combination. The use of containers is one such field which can be extended, he feels, particularly if better terminal facilities can be made available.

Solution of a Bridging Problem

A TWO-SPAN road underbridge carrying four tracks and five turnouts seldom has to be replaced under busy traffic by an entirely new structure more than double the length of the old. One way of solving the problem is described elsewhere in this issue. Briefly, a temporary bridge, the length of the new permanent one, was first constructed under the tracks, the old girders being re-used for the middle part of it; the ends were carried on piling. The new superstructure, 156 ft. long and 70 ft. wide, was assembled in halves, one on each side of the temporary bridge. Instead of the more usual method of erection on fixed staging carrying runways for rolling the superstructure into place, assembly in this instance was on six steel transversely-travelling bents, three under each half. To maintain correct level during erection and rolling, and to facilitate lowering on to the permanent bearings, each bent was equipped with four hydraulic jacks. The steel grillage of the bent carrying the jacks was fitted with runners traversing rails mounted on steel girders supported by staging.

Signalling on German Propelled Trains

MUCH use has been made in Germany, as here and there on the Continent, of complete trains regularly propelled in one direction, to eliminate shunting at terminals. Both steam and diesel traction are employed. An article by Herr K. Langner in *Die Bundesbahn* explains the working of the signalling apparatus used to communicate between the driver on the leading coach and the locomotive. This is based on a design of d.c. electric ship telegraph, widely used in the German mercantile marine, and is able to give 12 distinct indications, including an "out of order" sign. Seven wires in a cable, with plug connectors between train and locomotive, are required and the operation, very easy to effect, is fully proved at each stage. The receiver actuating the dial pointer is a three-coil "star" connected device with cylindrical permanent magnet armature, the 12 combinations being obtained by using the two poles of the battery on three line wires, with for six of them one wire not energised. In this way fields in different positions acting on the magnet are obtained. Each change of the pointer is accompanied by a hooter, which the man on

the locomotive has to silence as an acknowledgment and a deadman emergency control is incorporated in the transmitter.

Dutch Steam Locomotives

THE published expectations of the Netherlands Railways are that by early 1955 no steam locomotives will remain in active service. This, and a recent transit trip through Holland, which showed a Henschel four-cylinder 4-6-0 working the evening "Loreley Express" as far west as Eindhoven and several of the same builder's massive 4-8-4 tank engines heavily engaged on the Limburg coal traffic, even as far south as Visé in Belgium, brings a nostalgic feeling for the days of the graceful locomotives of the Dutch Central and Holland Railways, many of which were of English origin. It brings also the hope that something may be preserved. One of the old Beyer Peacock 4-4-0s still to be found operating in the Almelo-Couveorden area would be one admirable choice. But sufficient stock remains for at least six types representative of the best Dutch practice from 1890 onwards to be preserved, say a Beyer Peacock 4-4-0, one of the rebuilt 4-4-0s of the 1910-14 period, an inside-cylinder 4-6-4T, one of the elegant inside-cylinder 4-6-0s, and the two Henschel classes mentioned above, which were the last true Dutch types to be evolved.

A Disappointing Debate

THE debate in the House of Lords last week on the railway reorganisation scheme as outlined in the recent White Paper took the authoritative form which so often marks debates in that House. An account of the debate is given elsewhere in this issue. As in the House of Commons, the motion was that the House should "take note" of the scheme. In introducing the motion, Lord Swinton said that the scheme was being presented to Parliament in draft form with explanations for discussion and comment before a final Order was presented in due course to both Houses. As Lord Lucas of Chilworth explained later, the final Order can be approved or rejected by the House of Lords, but not amended.

Lord Swinton devoted some time to explaining the relationship between the Commission and the area boards, and between the boards and the respective Chief Regional (or "Area") Managers. He quoted from the memorandum introducing the White Paper, and he pointed out that the Commission is a policy-forming body and that the boards are to be policy-forming at area level and supervisory, but are not to be executive organs of day-to-day management. On the direct contact between the executive element in the Commission and the Chief Regional Managers he again quoted the memorandum, saying that new policy was initiated more often than in any other way by those responsible for the daily operation of existing policy. This, he said, was no more a by-passing of the area authority than it was of the Commission.

This explanation seems to leave the position even more uncertain than it was before. If new policy is to arise from the "ordinary staff consultations," as Mr. John Boyd-Carpenter, Minister of Transport & Civil Aviation, had called them in the Commons debate two days before, then the boards are likely in many cases to approve policy already formed rather than initiate it. As the same policy, already formulated by the executive element in the Commission and the Chief Regional Managers, will be presented, presumably, to the Commission, the decision even then may be taken out of the hands of the boards.

Lord Lucas of Chilworth, expressing an Opposition point of view, stressed the need for "integration" of transport, suggesting that the White Paper should be withdrawn and the Commission be asked to draw up a properly "integrated" scheme for transport based on its experience over the last seven years. It does seem, as Lord Lucas said later, that at some future date a means must be found for the Commission to retain and operate the large portion of the road transport fleet which appears unlikely to be sold. If such a scheme could be produced before the next election the reduced likelihood of further political interference after a possible change of Government would be a boon to the industry and the country as a whole.

The difficulty of getting men of the right type to serve on the area boards in a scheme which centralised the substance of power and decentralised the shadow of responsibility was emphasised by Lord Balfour of Inchrye. This seems one of the major difficulties of the scheme, but much depends on the way in which relations between boards and the Commission develop in practice, and whether the final authority of the Commission to enforce its decisions is kept as a last resort rather than frequently invoked.

Lord Hurcomb, whose views, as a former Chairman of the British Transport Commission, carry weight with a good many people, was in favour of the scheme as a whole. He deprecated "antiquarian hankerings after old managerial empires" and urged that railwaymen should direct their energies to meeting competition from the roads and the incipient competition, to which attention has been drawn frequently in these columns, from the air.

The statement by Lord Selkirk that the Government hopes to be able to produce a financial statement which will enable the public to judge sensibly what is happening on the railways may mean much or little. Expenditure statistics are already published by the Commission in its annual report and elsewhere. He showed that more than a profit and loss account is intended; and if the proposed statement contains hitherto unpublished facts it will be welcome as offering further insight into railway problems.

The N.E. Railway of India in 1953-54

THE year 1953-54 was only the second since the formation out of the metre-gauge Assam, Eastern Bengal, and Oudh & Tirhut Railways of the present North Eastern Railway of India. Despite great difficulties, including floods in much of the territory served by the system, and the ever-present problem of adjustment of the railways to the political frontier between the Republic of India and Eastern Pakistan, much was achieved.

During the year, special efforts were made to increase line capacity on the route connecting Assam with the rest of India. The first phase of the work has been carried out on the Katihar-Alipurduar section, which had been a bottleneck on this route, with a view to permit more and longer trains being run. The works included regrading and realignment of certain heavily-graded sections and increase in the length of the crossing loops at some 17 stations. They are an essential part of the Indian First Five Year Plan. The increase in the capacity, with the anticipated addition to the rolling stock, is expected to meet all requirements on the section by 1956 or perhaps earlier. Other improvements to deal with the traffic that may be expected after the building of the bridge over the Ganges at Mokameh, are also being planned, and will be undertaken concurrently with the progress of the bridge itself.

The supply position of wooden sleepers, the normal type in use on the North Eastern Railway, has for some years been difficult, as the supplies of salwood sleepers available since the last war have failed to meet requirements for renewals. Increased use of softwood sleepers, duly treated, is being planned. An additional creosoting plant is being set up at Clutterbuckganj in Uttar Pradesh; this is expected to go into production next year. In full operation, it will be capable of treating nearly 500,000 sleepers a year.

Good progress was made in improving the signalling of the main line for greater speed and safety. Orders were placed for the supply of the materials for the first 22 stations on the Lucknow-Katihar section. The signalling will be multi-aspect upper quadrant semaphore route signalling, operated from a central cabin with an electrical stationmaster's control. A special feature of this scheme will be that the "outer" or "first stop" signal will be situated 1,200 ft. from the outermost facing points and will be a bracketed signal to indicate the route set. There will

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be no signal adjacent to the first facing points. The assistant stationmaster will control the correct setting and holding of the route.

The telecommunication facilities were extended by the provision of additional railway telephone exchanges and trunk lines, and extension to the train control facilities. A contract was placed for the provision of a v.h.f. radio telephone link over the Ganges at Bhagalpur, in place of an underwater cable, as the latter is costly and liable to damage due to dragging by steamer anchors. The facilities offered by the adoption of v.h.f. equipment are being closely studied, and if the present scheme turns out successfully the use of v.h.f. will be extended.

The remodelling and expansion of the locomotive and carriage workshops at Gorakhpur continued, and nearly half the work was completed by the end of the year. Progress was made in the provision of and increase in passenger amenities, as in the surfacing and raising of station platforms, installing water coolers at stations, and building of waiting rooms.

Compared to the previous year, there was a drop in the loading of wagons in 1953-54, caused largely by a poor sugar cane crop; but the corresponding tonnage moved showed some improvement. The unprecedented difficulties faced at the riverine transhipment points during certain months of the year was another reason for the drop. There was consistent improvement in passenger train miles, and many additional passenger trains were introduced. In passenger traffic the outstanding event of the year was the Kumbh Mela festival at Allahabad, held early in 1954. The railway arrangements for this and the methods employed to handle the immense number of pilgrims were described in our February 12 issue. On the one single metre-gauge line of the North Eastern Railway serving Allahabad some 84,000 passengers were moved daily on peak dates. In all, 456 trains were run by the N.E.R. for the Mela, to which it carried a total of 870,000 persons. The necessary motive power and coaching stock were obtained by curtailing services on other sections of the railway, and through loan from other metre-gauge railways.

Morale of Transport Staff

THERE is some evidence, and it is to be welcomed, of the growing realisation that one of the keys to improved transport and railway service within Great Britain is the raising of morale throughout the staff.

In his recent address to the Southern Region Lecture & Debating Society, Sir John Elliot chose as his theme the the ever-important question of human relationship, while Mr. Frank Gilbert, in his contribution to the Institute of Transport on Merseyside, dealt analytically with industrial relations—a closely correlated matter. Both these lectures received detailed attention in columns of our recent issues and we recall other addresses, dealing with human relations in the transport industry, delivered at Southampton some time back. Morale is closely interlocked with *esprit de corps* and, within the army, it is encouraged by the inculcation of the regimental spirit. Last August, at the Sovereign's parade at the Royal Military Academy at Sandhurst, Lord Montgomery is reported to have stated that leadership was based on truth and confidence, and with leadership and comradeship he associated the regimental spirit and the regimental system. He went on to add, according to the *The Times*, "You must always defend this regimental system and oppose all attempts to tamper with it and break it down." It is to be noted that General Sir Brian Robertson, Chairman of the British Transport Commission, was a distinguished guest on that occasion. Few army officers are likely to disagree with Lord Montgomery's views thus expressed, and many will maintain that there is a larger element of *esprit de corps* in the various regiments than there is in the larger Corps, such as the Royal Engineers or the R.A.S.C.

If one transfers this conception to the transport world one obtains a fairly close analogy, since the British Transport Commission with its vast staff, numbering nearly 900,000, may be likened to the Army, with the individual Regions comparable with regiments, and the British Road Services, Docks & Inland Waterways, Hotels, and so on, comparable with the Army's several Corps: R.A.O.C., R.A.S.C., R.E.M.E., and the Army Catering Corps.

One of the main objectives of the White Paper, discussed last week in Parliament, is to set up an organisation in which freedom of action for the several Regions of British Railways will find a place, and it may well be that the advice so clearly stated by Lord Montgomery will act as a guide to policy in respect of the degree of authority permitted to the regional managements. Glancing back a few years it would appear that the principles laid down by the Field Marshal were certainly not followed by those responsible for implementing the 1947 Act, and there are some who maintain that the railway service has deteriorated as a consequence; at any rate most will agree that the 1953 Act had, as one of its aims, the rebirth of *esprit de corps* on a more decentralised basis than was possible with a total staff of some 600,000. Even in an infantry regiment *esprit de corps*, and with it morale, starts with the company, continues through the battalion and the regiment, culminating with the infantry arm as such and finally the army as a whole. Much the same happens in the Royal Air Force with its squadrons and commands, and the Royal Navy with its ships and its bases.

History will possibly judge that the British Transport Commission was rather too precipitate, or perhaps too optimistic, in attempting to reshape the loyalties, inculcated over a quarter-of-a-century—in the case of the G.W.R. a hundred years—into an all-embracing loyalty to the railway industry as a whole, involving well over half-a-million staff. *The Sunday Times* in a recent editorial on transport unrest used the well-chosen term "the impersonality of bigness," and this can only be overcome by a judicious measure of decentralisation of authority and management. The aim at this juncture should be the re-establishment of personal touch, likened to an unsevered thread running from top to bottom throughout the organisation, and the problem is no easy one to solve in view of the widespread nature of railway work, with its units scattered at hundreds of stations, thousands of signalboxes and as individuals working on the permanent way, as level-crossing keepers, and so on.

In this respect the problem facing the Service departments is not vastly different, with small detachments scattered in several continents, but the analogy should not be drawn too closely. Certain remarks by Marshal of the Royal Air Force Lord Tedder, commenting on an address by Lord Montgomery at the Royal United Service Institution on October 21, are worthy of careful note. He is reported by *The Times* as saying that "his experience of working with the Navy and the Army during the war had shown that it was quite possible to have concentration of control at the top with decentralisation at lower levels" Coming from so high an authority one has here clearly a blue print which those responsible for the future organisation of the Commission and the British Railways would do well to study and to ponder over.

It must not be forgotten that Commission policy varied completely as between the railways and its wholly-owned bus companies comprised in the so-called Tilling and Scottish Omnibus groups. In the latter case individual operating companies retained their well-known titles, such as Eastern Counties, Western National, S.M.T., Alexanders and the like; there was no question of repainting all the vehicles a standard colour or altering the title to "British Omnibuses" in line with the adoption of "British Railways." In short, the views now expressed by Lord Montgomery held sway in the sphere of the Commission's road passenger activities, and the public would give high marks to the morale and *esprit de corps* exhibited by bus operating crews in the Tilling and Scottish groups. That morale is reflected in efficient operation and satisfactory financial results.

It is to be hoped that the lessons of the past will be accorded due assessment, and this is an appropriate time to do so with the future organisation of British railways at the cross-roads.

Review of 1953 Railway Freight Operations

ON the same day as the British Transport Commission published its sixth annual report, Mr. R. A. Butler, Chancellor of the Exchequer, stated that it might be necessary to import more foreign coal if industrial production continued to expand at the present rate. Since British Railways came into being in 1948, trade and employment have been uncommonly good, though the rise in output has been most prominent in the past three years. The successive reports of the Commission show that our railways did not benefit from the burst of industrial activity to the extent which their wellwishers would like to have seen. The few improvements in traffic indicated in the 1953 report were offset by losses in other directions and, before the report came to hand, eight issues of the 1954 series of *Transport Statistics* pointed to a recession in current railway business. It therefore seems desirable to touch on the progress made during the last six years instead of confining this review to a comparison of 1953 and 1952 results.

In 1953, British Railways originated 289,271,000 tons of freight train traffic, the largest quantity since nationalisation, being 4,355,000 tons above 1952 (1·5 per cent) and 16,000,000 tons above 1948 (5·8 per cent). The former railway companies carried about 9,000,000 more tons in 1937, their last fairly good year before the war, and 60 million tons more in 1923, when coal exports were booming. The additional carryings after 1948 consisted entirely of minerals and coal class traffic. Merchandise forwardings decreased by 6,000,000 tons, or nearly 11 per cent, while the number of wagons loaded with merchandise and livestock fell from 15,091,000 to 13,015,000, a decrease of 2,076,000 (13·7 per cent). The average wagon load at starting point rose from 3·87 tons to 4·02 tons, and would have been higher if the London Midland Region, which loads 30 per cent of all wagons conveying merchandise, had improved its poor average of 3·81 tons.

The average haul for all classes of freight lengthened slightly to 73·7 miles last year. British Railways worked 22,766 million ton-miles, 375,051,000 more than in 1952 (1·7 per cent), but 135,599,000, or 0·6 per cent, below the 1951 peacetime record. The estimated ton-miles for these busy years were about 6 per cent above the 1948 level; the rise was due to the extra haulage of heavy traffics. Similarly, the 1953 loaded wagon mileage was 6,828,000 above 1952 (0·2 per cent) because the movement of coal and coke entailed the working of 19,581,000 more loaded wagon miles (2·1 per cent) and offset decreases due to other traffics. The coal movement would be largely responsible also for an increase of 31,195,000 in empty wagon mileage (2·4 per cent). The empty mileage totalled 1,312 million, an increase of 68 million on 1948 (5·4 per cent) and the highest amount worked by British Railways in any year, though 279 million, or 17 per cent, less than the 1,591 million empty miles which fell to the lot of the former railway companies in 1937 when private owners' wagons were in full force.

In examining these figures, it is wise to bear in mind that a wagon mile is not a fixed unit like a ton-mile. During the last five years the number of merchandise wagons was reduced by 8,530 from 463,400 to 454,870, but average capacity was raised by about a third of a ton and aggregate capacity by 30,000 tons in round figures. Mineral wagon stock was cut by 54,570 to 592,800, with an increase of about 1½ tons in average capacity to 14 tons, thus adding 206,000 tons to aggregate capacity. The report gives the total number of freight vehicles at the end of 1953, including 14,900 brake vans, as 1,122,000, some 57,400 fewer than in 1948, but having an increased carrying capacity of 397,100 tons. The report also shows 69,879 freight vehicles as being under repair at the end of the year, compared with 79,353 at the end of 1952. The first figure may be underestimated as 76,847 wagons were under repair on November 29 and, owing to the Christmas holidays, fewer repairs were done in the December period than in November. Throughout the year the number of wagons under repair varied from 75,198 in January to 91,258 in August; the average for the 12 periods to November 29 was 82,900 and is a more reliable guide to the repairs position than a single end-of-the-year figure can be. Much the same criticism applies to the figure of 914 given in the report as the number of locomotives under repair at workshops on December 31. The average number in shops during the first 12 four-week periods was 1,011 and more than twice that number were out of action at sheds, month after month to November 29, showing that the December figures are not representative of the state of locomotive power during the year.

In coping with the additional traffic volume British Railways worked 141,567,000 freight train miles in 1953, an increase of 683,000 on 1952 (0·5 per cent) and of 4,123,000 on 1948 (3 per cent). Surprisingly, loaded train mileage was lower and empty mileage higher than in the three previous year. Train hours numbered 16,337,000, an increase on 1952 of 50,000 (0·3 per cent) and a decrease of 3 per cent from 1948. Shunting hours totalled 16,872,000, a large drop of 369,000 from 1952 (2·1 per cent) and no less than 2,332,000 fewer than in 1948 (1·2 per cent).

The speed of freight trains was a shade better—8·67 miles an hour against 8·65 in 1952 and 8·17 in 1948. The North Eastern and Scottish Regions led the way, with speeds of 10·77 m.p.h. and 10·46 respectively, as they have done since nationalisation. In 1948 and 1949 the Western Region came close behind with a speed of over 9 m.p.h., but its rate of movement then slowed down and at 8·57 m.p.h. fell last year for the first time below the all-line average and also below the Eastern Region speed, which has been increased by a sustained effort from 7·92 in 1948 to 8·83 m.p.h. last year.

The 1953 average train load of 161 tons was nearly two tons heavier than the 1952 load and five tons above 1948. The London Midland load of 182 tons, the Eastern's of 175 tons and the North Eastern's of 155 tons were above the 1948 figures, but the Western's load of 163 tons was a ton lighter. The variations in train load and speed influence the measure of freight train output—"net ton-miles per train hour" and inevitably the Western Region's freight trains turned out less work last year than those operated by the other "heavy" Regions. The Western's output of 1,093 net ton-miles in a train hour was 7 per cent below 1948, while the London Midland output of 1,112 and the Eastern Region 1,290 were both 12 per cent higher.

The North Eastern statistic, 1,451, was 26 per cent over 1948 and helped towards an all-line average of 1,145, an improvement of 1 per cent on 1952 and 8 per cent on 1948. The other test of mobility, "net wagon miles per train hour," tells the same story of a small advance for the whole system, the result largely of better returns from the London Midland, Eastern and North Eastern Regions.

The report of the Commission states that the absence of continuous brakes on the majority of freight trains necessitates slow timings and suggests that speed cannot be improved materially until loose couplings and hand brakes are abolished. The report does not show that any great advantage has been derived from the provision of 36,790 more fitted wagons during the past five years, bringing the stock of these expensive wagons up to 129,080 at December 31. The number of brake-fitted express trains in 1952 was 2,574 weekly, against 1,749 in 1938, and was no doubt larger last year when 8,900 of the additional fitted wagons were installed. It is doubtful whether the extra trains run as speedily or as punctually as the trains of 1938 ran. In that year, when only 89,090 goods wagons were fitted, an average speed of 9·15 miles an hour was recorded and 261 wagon miles were worked in a train engine hour against 226 in 1953.

Punctuality was good enough in those days to encourage one company to circulate an express freight train timetable among its customers, who seem to have been less dissatisfied with transit times than traders have been since nationalisation. British Railways have a long way to go yet to establish their position firmly as carriers of freight in an intensely competitive transport world.

LETTERS TO THE EDITOR

(The Editor is not responsible for opinions of correspondents)

A Subsidy for the Railways

November 2

SIR,—Reference your comments on the letter from H. F. D. in your issue of October 29, it goes without saying that the railways, as other means of transport, should reduce their costs by increasing efficiency and should try to attract more business. This, however, does not answer the question of what ought to happen if the railways cannot stand on their own feet while being essential to the national economy or, in other words, if it is essential in the national economy that the railways should carry non-paying traffic.

In that case there seem to be three alternatives:—

(1) The railways must be given at least a partial monopoly, e.g., on the lines now proposed in Germany;

(2) non-paying services must be subsidised by the State, i.e., the taxpayer;

(3) non-paying services must be made good from paying services including private transport, taking transport as a whole.

It is important to remember that the railways (and omnibus companies) with their compulsory availability to carry non-paying traffics confer benefits on those who do not normally use their services but who rely on them when it suits their convenience. In the case of omnibus transport non-paying services necessary for social purposes are compensated for by monopolies covering the paying services. No method of fully compensating the railways has yet been devised. Until this problem is solved it will be difficult to judge how far the railways are, or should be, capable of standing on their own feet. If monopoly and subsidy are ruled out we may ultimately be driven to the policy that inland transport as a whole should stand on its feet and not each form separately.

Yours faithfully,

H. O. MANCE

20-22, Abchurch Lane, E.C.4

Railway Freight Movement

November 1

SIR,—In his letter published in your October 8 issue on my article "A Paradox of Modern Railway Management" in your issues of August 20 and 27 and September 3, Mr. G. V. O. Bulkeley again gives point to my argument. It is agreed that neither a lorry nor a locomotive should be overloaded but—and this is where the difference arises—they should both be worked to the utmost limit when demand requires it. An amortisation date is quite irrelevant except when a railway is Government-owned and Treasury-controlled, in which case it is important and affects policy, as I intimated; for demand is subordinated to consideration of cost.

The locomotive repair costs of British Railways in 1952 were 8·845 and 4·767 pence per engine-mile for shop and shed repairs respectively. In terms of ton-mile costs and of rates these figures are insignificant. In terms of the total bill, very large sums are involved.

The pyramids of groundnuts are now seen to be of pre-war origin and this traffic, at least, was held back in conditions which can only occur with a monopoly. This traffic was not accepted as offered and transported with the greatest possible speed to destination. The reason for holding back may have been a shipping shortage, but under competitive conditions policy should be to move produce to the port as quickly as possible to enable competitive shipping to react to the situation. Otherwise the traffic could be transported by road.

Before 1939, the groundnut harvest took some six months to clear, a delay which would involve commercial costs and affect the rate of buying. A blackmarket in wagons would arise.

If rolling stock requirements were based upon clearing the crop in six months, so that wagons were not idle for too long, then the shortage of equipment would affect traffics which were competitive. Marginal productivity, not idle time, is the correct criterion of expansion.

The complexion of the trade has now entirely changed. The Marketing Board has to buy all produce offered at the railhead; an impediment to production has been removed, and production has expanded fast.

The statistics of operation are crude averages of no use to managements. Unless a use can be established for them, the least that should follow is to save the considerable expense of compilation. When it is found that a tool of management has a hitherto unsuspected edge, then it is idle to argue that this has never made wounding cuts.

The proposed new railway area authorities in the United Kingdom will not produce separate accounts, but they are to produce their own statistics of operation. The only means of comparing results will be in terms of the relative "efficiencies" and according to reports, a spirit of "strong emulation" is to be fostered between them. The pre-occupation may well be with "efficiency." The pace has been set by the considerable improvement in the ton-miles per engine-hour figure since 1938, the last year of commercial ownership.

Yours faithfully,

A. R. G. SAUNDERS

c/o Sierra Leone Railway, Freetown

Western Region Record Run

November 4

SIR,—The comparison made by "Dunelmian" in your October 29 issue between the recent record times achieved by Western Region Plymouth-Paddington boat specials and those of the prewar L.N.E.R. "Silver Jubilee" and "Coronation" streamliners is hardly fair.

The L.N.E.R. trains were worked by 103-ton "A4" Pacifics as compared with the 80-ton "Castle" 4-6-0s on the W.R. boat specials, the former with 41 sq. ft. of fire-grate areas as against the latter's 29·4 sq. ft. Included in the times from Plymouth were the dead slow running from Millbay Docks to North Road, the climb to Hemerdon, the climb from Totnes to Dainton Summit, and no chance whatever of high speed until after Exeter. The only severe handicaps to the "Silver Jubilee" were the speed restrictions through Peterborough, Selby and York.

From Exeter to Paddington the 150 min. of the Western Region records over a distance of 173·5 miles represents an average speed of 69·4 m.p.h. Moreover, while the W.R. run quoted by "Dunelmian" was made with a five-coach train, the same time has since been made by "Castle" No. 5058 with a seven-coach train of 226 tons tare, almost precisely equal to the "Silver Jubilee" 220-ton seven-coach formation (until the eighth coach was added in 1937, bringing the tare weight up to 248 tons). "Dunelmian" quotes the weight of the "Coronation" as 312 tons, but throughout the winter months the observation car was withdrawn, and the weight was 279 tons.

Finally, "Dunelmian," whose slogan is "Those were the days," appears to be living in the past. Has it escaped his attention that the Western Region has been courageous enough to reintroduce a train at full prewar streamline speed—the "Bristolian"? Something much better than timekeeping has been demonstrated, for since the restoration the up run over the 117·6 miles from Bristol to Paddington has been made in 95 min. (74·3 m.p.h. from start to stop), and on a number of occasions in 95-100 min. There has been no restoration of the "Silver Jubilee," the "Coronation," or the "West Riding Limited."

Yours faithfully,

CECIL J. ALLEN

Hatch End, Middlesex

THE SCRAP HEAP

Bull Charges Train

A bull charged a train travelling at 60 m.p.h. near Grosseto, on the Rome-Leghorn main line, slightly denting the front of the locomotive. The bull ended up at a butcher's shop.

Sweet Waters

Tyburn derives its name from a stream of that name which meandered across London until it inadvertently fell into the Thames. Along its banks were elms which some say provided the original Tyburn Tree. But the purling Tyburn had more to do with life than death. Growing thirsty, London was "forced to seek sweet waters abroad" in 1236, and built a conduit from the Tyburn for its drinking supply. . . . It is one of London's many lost rivers. The Tyburn was supposed to have been drained off by the North London Railway Company in the 1880s. But one hears of it again in 1900, when it was tapped, much to their surprise, by engineers burrowing for the "Twopenny Tube," the Central London Railway. — *From "The Manchester Guardian."*

Travel in Eastern Germany

1.—The number of dining car seat tickets issued to travellers greatly exceeded the number of seats.

2.—No menu was printed. The waiter explained that a menu would have been superfluous, as the selection of dishes was limited to one kind of sausage.

3.—There were no beer glasses: patrons drank from bottles.

4.—No sugar for coffee. On special request, the waiter produced a paper bag from his pocket and shook a little into cups.

5.—The only teaspoon was carried by the waiter from cup to cup. He also stirred the coffee himself, to save time and avoid risk of sabotage.

Restaurant cars have recently been introduced in the Soviet Zone of Germany. Above is the list of complaints in an East German paper by one ungrateful traveller.—*From "The Daily Telegraph."*

New Roof for Aldersgate Station

(*See our September 17 issue*)

Aldersgate Street Station as our fathers and grandfathers. . . knew it is to be destroyed. That noble cast-iron roof which made the station like a cathedral inside has not been kept in repair by the London Transport Executive and British Railways. No longer will we stand like dwarfs upon the echoing platform to look west and see, framed in the station arch, Sir Horace Jones's handsome dome on a corner of Smithfield Market, nor, looking east, watch infrequent steam trains puff up from Moorgate tunnel into the sunlight and on into the shadow of the station. No longer will we be able to ascend those dizzy heights of branching iron staircases to where the bombed refreshment room reminds us of how once there used to be written, in white china letters, on its plate-glass windows "Afternoon Teas a Speciality." I suppose they will make Aldersgate & Barbican as dull as they have made Farringdon Street Station. . . It is surely as expensive to keep the large surfaces of hideous concrete clean in the new stations as it is to keep the gay wood and cast-iron of the old stations painted.—*John Betjeman in "The Spectator."*

Hump Working

The Bishopsgate (London) (Eastern Region) Goods staff had one of their trickiest jobs on October 7, when four camels said to be worth £1,000 each, arrived from Prague via Harwich, on their way to the London Zoo.

After travelling some 1,300 miles the camels did not seem particularly anxious to leave their home on wheels, and it took quite a lot of patience, coaxing, and not a little manual labour with the aid of ropes by the railway and zoological staff before they were finally unloaded.

This consignment, part of an exchange of animals between the two zoos, is the eighth which has taken place with Eastern European countries since the war, and is proof that there is no Iron Curtain at least in the zoological world.—*From "British Railways Magazine," Eastern Region.*

Early Railway Wheels

Much attention was paid in the early days of railways to the design of railway wheels to reduce track friction, withstand shock and minimise air resistance. A correspondent has sent us the following extract from an engineering journal of 1839:

"Description of a new Railway Wheel, by Mr. Cottam. The wheels suggested are made on the following principles:—

"1st: They are wholly of wrought iron, so welded together, that, independent of screws, rivets, or any other kind of fastening, they form one piece with the spokes.

"2nd: The spokes of the wheels are placed together diagonally, and act as trusses, thereby giving the greatest possible support to the rim. . . .

"4th: The strength of iron being as the square of its depth, then the flanged tires of these wheels, which offer sections twice as deep, are, consequently, four times as strong as those of any wheels at present in use. . . .

"5th: The spokes strike the air edgewise, and thus offer the least possible resistance.

"Mr. Woods stated that on the Liverpool & Manchester Railway cast-iron wheels were much used. They had employed wheels with wooden tires at the opening of that line, some of which were still in use; and so satisfied were the Directors, that it was their intention to have some new wooden wheels made, and to submit them to the test of experiment."

Far from Lambeth

Photo] [*M. L. Ryder*

A wayside station on the Sierra Leone Government Railway. Note the British type of nameboard

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

PAKISTAN

Eastern Bengal Floating Workshop

Before Partition all heavy repairs and periodical overhauls to the vessels owned by the Eastern Bengal Railway were undertaken by private firms in Calcutta. As it became increasingly difficult and impracticable to continue this practice after Partition, ways and means had to be devised to make the railway self-sufficient in this respect. In view of the treacherous nature of Bengal rivers and the necessity of shifting landing jetties from place to place almost every year, the possibility of establishing stationary workshops was ruled out, and plans were devised for a floating workshop at Tistamukghat.

The main workshops have been installed on a pontoon, 200 ft. long and 40 ft. at the beams. The registered tonnage is 450, it has a draught of 3 ft., forward and aft. The heavy and light type of machines, the main driving unit and boilers, the smithy and white metalling sections, the fitters' benches, the tool stores and time office have been accommodated on the lower deck; the upper carries the carpentry and foundry sections and the supervisor's offices.

Workshop Machinery

The main driving unit for the machinery and plant on the lower deck consists of a 70 h.p. steam-driven engine, complete with a stand-by boiler, drills and centre lathes of high capacity, slotting and shaping machines, plate rolling, bending, shearing and punching machines are accommodated on the lower deck. In a small barge, 80 ft. by 25 ft., a compressor unit with an electric welding plant and drilling, riveting and other facilities are incorporated. This barge can be towed as an independent unit to the site of work.

It is thus now possible to carry out all above-water repairs systematically and economically without putting the vessels out of commission for long periods.

INDIA

Railway Corruption Inquiry Committee

The Railway Corruption Inquiry Committee has completed a tour of important stations on the Central and Western Railways to collect evidence as to corrupt practices on the railways.

The committee, which recently completed a tour of a number of stations in South India, examined railway and police officials, representatives of public bodies such as chambers of commerce, trade associations, railway passengers' associations, representatives of railway labour unions and Members of the Central and State Legislatures, besides members of the public who expressed a desire to appear before it.

CHINA

New Lines

Between 1951 and the beginning of 1953 about 800 miles of new line were opened. The 1954 programme of construction covers ten new lines, mainly in the west. That from Chengtu to Tienshui, under construction, crosses two mountain ranges and connects with the Lunghai Railway at Tienshui. It will open up a large region and enable many agricultural and industrial products to find an assured market. Szechwan, one of the country's richest provinces, will then have an outlet for its goods alternative to the Yangtze River.

The extension of the Lunghai Railway from Tienshui to Lanchow, built in 1952-53, crosses an arid region and reaches altitudes of about 10,000 ft. above sea level. The aggregate length of tunnels on the mountain section is six miles. The building materials for the numerous bridges over rivers and gorges had to be carried over long distances. This line is of special importance to the industrialisation of Hansu Province and adjoining areas where there are extensive deposits of copper, iron ore, coal, petroleum, and salt unworkable until now because of the impossibility of conveying modern machinery to them.

Beyond Lanchow the railway is being carried north-westwards into Sinkiang Province and thence to a connection with the Turksib line at Alma Ata in the Soviet Union. A line is to be built from Tinmin, in China, to Ulan Bator, Mongolia.

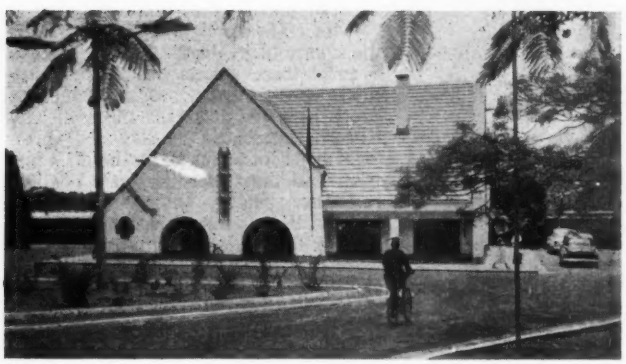
CANADA

"Crows Nest Pass" Rates

Federal officials are studying the possibility of a subsidy to the railways to compensate them for the sub-normal "Crows Nest Pass" freight rates on Western grain. Under these rates, established in 1899, most of the export grain traffic moves through the four Western Provinces to shipping points at rates much below present economic levels. The rates, negotiated between the Federal Government and the C.P.R. in return for financial help in building a line through the Crows Nest Pass, in the Rockies, were written into a federal statute in 1925. They are roughly half the normal rates.

For some years, the C.P.R. has been agitating to have the rates taken out of the statute and placed with other rates under the jurisdiction of the Board of Transport Commissioners. The C.P.R. and C.N.R. are said to lose more than $20,000,000 a year on the Crows Nest rates.

A Central African Frontier Station



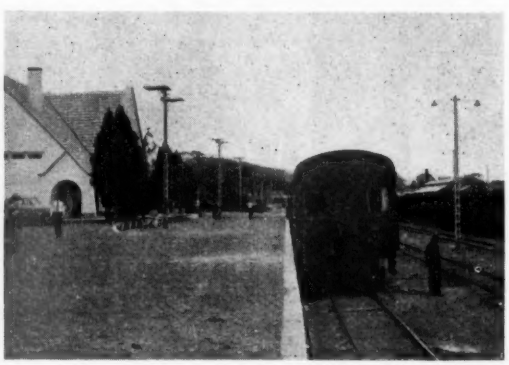


Photo courtesy [*Rhodesia Railways Magazine*

(Left) exterior, and (right) platform view of the station at Sakania, Belgian Congo, where traffic is exchanged between the Bas-Congo—Katanga and Rhodesia Railways

Three possibilities offer themselves: Parliamentary authorisation of an increase of the Crows Nest Pass rates by a specified amount; repeal of the statute and placing the rates under the Transport Board, which regulates all other rates; continuance of the statute in force and a subsidy to the railways. The first two are discarded almost automatically on political grounds. Although a subsidy plan is understood to be distasteful to the C.P.R., it would have a precedent. Since 1927, 20 per cent rate reductions on a volume of rail traffic in the Maritimes have been financed by the Federal Treasury at a current cost of about $9,000,000 a year. For the last two years, the Treasury has paid $7,000,000 a year to subsidise freight rate reductions on traffic between Eastern and Western Canada across the sparsely-settled east-west rail "bridge" along the north of Lake Superior.

No amount for a subsidy on the Crows Nest rates has been suggested. Were the rates brought to normal levels, it is probable they would yield an additional $60,000,000 a year, but it is highly improbable there would be government aid in excess of estimated actual losses of $25,000,000.

UNITED STATES

Joint Working in Chicago

In the Oak Park suburban area of Chicago, the rapid transit line of the Chicago Transit Authority parallels for three miles, at ground level, the Chicago & North Western main line, which is carried on a viaduct. To be relieved of level crossing trouble, the C.T.A. has reached a preliminary agreement with the C. & N.W. whereby C.T.A. trains will use the C. & N.W. tracks of the latter, and all the existing C.T.A. stations will be abandoned, except the terminal at Oak Park.

Two tracks on the south side of the C. & N.W. elevation will be turned over to the C.T.A. and electrified, and two new tracks will be built for C. & N.W. trains in the space between the south and north sides of the elevation, not at present occupied. The C. & N.W. stations along this length will be taken over by the C.T.A., and C. & N.W. suburban trains after the change will call at one Oak Park station only. The cost is estimated at about $4,000,000, and will have to be borne by the local governments which are concerned in administering the C.T.A.

U.S.S.R.

Conveyance of Perishables

For the transport of perishable traffics, the railways are operating special trains consisting of refrigerator wagons connected to a wagon equipped as a central refrigerating or heating unit. This vehicle can maintain temperature in the refrigerator wagons at any level between 14 and 15° F.; if lower temperatures are required individually-equipped refrigerator wagons are used. There is also a vehicle equipped as a rest room for the staff.

Amongst the types of commodities conveyed in this way are fruits and vegetables requiring to be transported at temperatures ranging from 43 to 36° F., and meat, fish, etc., requiring temperatures ranging from 36 to 27° F. Temperatures can be varied from one wagon to another, each vehicle being equipped with its own thermometer to indicate the interior temperature at any time.

Wagons have also been equipped to convey live fish. Five tanks hold 24 *tonnes* of aerated water and can carry 8 *tonnes* of fish. The water is passed continually through a purifying plant in the roof of the wagon, and during the winter months it is heated to maintain an even temperature.

High-Capacity Well Wagon

A well wagon has been constructed at Voroshilovgrad with an overall length of 35·20 m. (115 ft. 6 in.) and a loading platform 8·30 m. (27 ft. 3 in.) in length for the conveyance of such traffics as transformers and hydro-electric turbines. The wagon is supported on eight two-axle bogies (32 wheels in all) and has a tare weight of 158·5 *tonnes*. Both hand brakes and MTZ-135 type automatic brakes are fitted and curves with a radius of six chains can be safely negotiated.

SWEDEN

Concrete Sleepers Tested

The State Railways have equipped, experimentally, a two-kilometre section of the Malmo-Stockholm line between Nässjö and Solberga with concrete sleepers. Various types of such sleepers have been used and a number of different methods of attaching the rails to the sleepers is also being tested.

Publications Received

The Boys' Book of Locomotives. By T. E. North. London: Blackie & Son, Ltd., 16/18, William IV Street, Charing Cross, W.C.2. 7 in. × 5½ in. 32 pp. Price 3s. 6d.—This pocket-size booklet will be of interest mainly to boys of the "locomotive-spotting" ages. It contains reasonably well coloured illustrations of 19 British Railways and ten Commonwealth and foreign modern locomotives, with brief details of each. Four British Railways designs and roughly four of those designed by each of the Regions or their predecessors are depicted. There are also Canadian (2), Australian (2), United States (2), Irish, New Zealand, South African, and French types included.

French Railways Travel Literature.—Folders issued by the French National Railways and obtainable from French Railways Limited, 179, Piccadilly, London, W.1, include an attractive map of France, showing principal railway routes and itineraries of French Railways motorcoaches; also folders describing the many fare reductions and other facilities offered by the S.N.C.F., and leaflets with coloured covers each devoted to a tourist region of France—the Riviera and French Alps, the Massif Central Basque Coast and Pyrenees, and Corsica—with a map in each case. All are well printed and illustrated.

Go.—The October-November issue of *Go*, the holiday and travel magazine, contains several articles of transport interest. One deals with aspects of the law concerning rail travel in Britain, and another is in praise of travelling to Rome by sleeping car. The magazine, which is well illustrated, costs 3s. 6d. a copy and is published at 67-68, Jermyn Street, London, S.W.1.

Research, Development, Achievement.—This pictorial record of the activities of the General Electric Co. Ltd. illustrates the translation of ideas conceived and investigations pursued in the laboratory into engineering and consumer products. Examples of transport interest are high-tension switchgear and rectifiers for the Southern Region change-of-frequency scheme, and traction motors for multiple-unit trains and locomotives at home and abroad. There is a view of a recent extension of the oil-filled cable section of the Pirelli-General Cable Works, by which a further order was received during the past financial year of over £2,000,000 for cabling and civil engineering work for the Southern Region. In a section on telecommunications a view of the concourse at Waterloo recalls the numerous installations of amplifiers and loudspeakers at stations for which the company has supplied equipment.

General Motors Locomotives.—An attractive illustrated booklet has been issued by General Motors Overseas Operations, 1775, Broadway, New York 19, which provides comprehensive information on diesel-electric locomotives designed by the corporation for passenger, freight, or shunting operations. The designs cover a wide range of horsepowers from 1,900 to 650 h.p. with six-axle or four-axle trucks, and suitable for all gauges. Plain or elevation diagrams show the layout of industrial locomotives, engine units, generators, compressors, and so on. Also included are brief specifications and tractive effort curves and maximum speeds of each individual locomotive.

XUM

Rectifier Equipment for Plating and Anodising

For obtaining a uni-directional current from single or three-phase supply

THERE is an increasing tendency in modern plating practice to replace large rotary generator sets supplying groups of plating vats by individual vat control using separate rectifier units, because of the advantages gained. The General Electric Co. Ltd. has developed new plating rectifiers which provide an efficient and cheap method of obtaining a uni-directional current from either single- or three-phase a.c. mains supply for plating, anodising, and general electro-precipitation purposes. Unlike a motor generator set they have no moving parts and do not incur heavy maintenance costs. The d.c. supply for the vat can be switched on or off without loss of current.

Higher Efficiency

Other advantages are: higher efficiency, 75 per cent from a rectifier unit, as against 60 per cent from a motor generator; economy in power by the use of an auto-transformer in place of a resistance control panel; flexibility of the entire system; and large savings in running costs. The saving in running costs is particularly noticeable in the case of a general plating shop where for example, the following units might be installed.

1. Copper vat demanding 200 amp. at 3 V.
2. Tin vat demanding 200 amp. at 3½ V.
3. Silver vat demanding 25 amp. at 1½ V.
4. Nickel vat demanding 200 amp. at 2½ V.
5. Cadmium vat demanding 75 amp. at 2½ V.
6. Chrome vat demanding 600 amp. at 4 V.
7. Cleaning demanding 200 amp. at 6 V.

For such an installation a motor generator would need to generate 7 V. (chrome striking voltage) at 1,500 amp. and give a continuous output of 5 kW. The voltages for each vat would need adjustment by resistance boards and at an efficiency of 60 per cent the consumption would be 17·5 kW. With separate rectifier units however each rectifier has only to supply its own running voltage. The chrome rectifier would be pushed up to 7 V. for striking for a negligibly small proportion of the time and the consumption would be:—

1. Copper vat	600 W.
2. Tin vat	700 W.
3. Silver vat	37½ W.
4. Nickel vat	500 W.
5. Cadmium vat	112½ W.
6. Chrome vat	2,400 W.
7. Cleaning vat	1,200 W.
Total	5,550 W.

With an efficiency of 75 per cent, this gives a consumption of 7·4 kW. and a saving in power of 10 kW. which, assuming a 44 hr. working week, amounts to 440 units a week.

Rectifier Units

The new rectifier units comprise three main components, a variable auto-transformer, a doubly-wound transformer, and a full-wave bridge-connected selenium rectifier. The mains input supply is fed through a suitable switch and protective fuse to the variable auto-transformer which is used for control of the output voltage. The variation provided by this means is continuous from 0 to the maximum rated output of the rectifier unit. The output from this auto-transformer is applied to a doubly-wound transformer, where it is stepped down to the necessary value to supply the rectifiers. The transformer is constructed in accordance with B.S. 171 and the rectifiers are of the G.E.C. selenium type; the d.c. output is monitored by a moving coil voltmeter and ammeter.

To eliminate the problems of cooling and corrosion, both transformer and rectifier are oil-immersed, using clear oil to B.S. 148 Class B. A thermostat sounds a warning bell and switches on a red pilot light if the oil temperature rises beyond a safe limit. Cooling is provided by natural convection, the warm oil rising and moving towards the sides of the tank where it cools by dissipating its heat to the surrounding air via the sides of the tank. As it cools it becomes more dense and moves to the bottom of the tank where it is drawn towards the centre and so repeats its cycle; this movement can be increased by providing vertical tubes.

To minimise the difficulties caused by accidental short circuiting when the vats are being loaded, the output current is limited to not more than 300 per cent of the full load current, and the rectifiers will withstand this overload for a period of several minutes at least. Normally, rectifiers are supplied for single-phase working, but for large units three-phase working is preferable, because it enables a smoothed output and higher efficiency or lower a.c. power consumption for the same output to be obtained. For special purposes such as chromium plating three-phase units can be supplied in which the ripple of the output is less than 4 per cent. The smaller units are housed in one case but in the larger units, transformer, rectifiers and control gear are housed in separate units.

The rectifier units described above are designed for operation in an average ambient temperature not exceeding 95° F. When required for use in tropical climates the ratings of the rectifier sets are reduced and the ambient temperature correspondingly increased. Tropically-rated sets suitably modified can be operated in an ambient temperature of 131° F.

SAFE DRIVING AWARDS FOR LONDON MIDLAND REGION STAFF.—Of the 3,311 awards for safe driving made to road drivers of the London Midland Region by the Royal Society for the Prevention of Accidents, the Manchester area gained 766 awards, followed by London 593, Liverpool 483, and Birmingham 287. Mr. Alfred Alderman, of Broad Street Goods Depot, London, has been awarded a bar for 29 years' accident-free driving.

AIR TRAVEL ON CREDIT.—The International Air Transport Association has announced that unrestricted international air travel on credit is now available to British business men. A recent Bank of England decision has made it possible for residents of the United Kingdom, colonies, and dependencies to secure credit cards which will be honoured throughout the world at the offices of the 72 airlines subscribing to the Universal Air Travel Plan. The Bank of England requires that the names of all British credit card holders be reported regularly by the issuing airlines, and the cards may be used by the designated holders for business purposes only.

SPLIT TICKET CHARGE.—A man has been sent for trial at Wokingham on two charges of forging railway tickets with intent to defraud and one charge of uttering a forged ticket. He was allowed bail. It was alleged that a ticket which he handed to a collector in a Waterloo to Reading train in July consisted of a front and back half of two tickets issued on different dates which had been split and gummed together.

SCOTTISH REGION MID-WEEK EXCURSION FACILITIES TO LANCASHIRE RESORTS.—The Scottish Region announces that until and including December 30, third class eight-day and 15-day period excursion tickets will be issued from Glasgow and Edinburgh to Blackpool, Morecambe and Southport. On the outward journey these tickets will be available by specified services on Tuesdays, Wednesdays or Thursdays and seats can be reserved in the normal way. The return journey is made by specified services on the Tuesday, Wednesday or Thursday of the following week or the second week. Considerably reduced fares, almost one-third less than the ordinary return fares, will apply.

RECORD SEPTEMBER TOURIST TRAFFIC IN BRITAIN.—Statistics issued by the British Travel & Holidays Association show that nearly 81,000 overseas visitors came to Britain in September, 9 per cent higher than that for September last year and a record for the month. Of the monthly total, more than 40,000 were visitors from European countries, 19,000 from the U.S.A., and an estimated 15,000 from the British Commonwealth. The British Travel & Holidays Association estimates that by the end of the year 850,000 people from overseas will have visited this country and that earnings from this traffic will amount to about £130,000,000.

New Lines in Western India

Survey of 93-mile line from Diva to Dasgaon as part of major scheme to develop the Konkan

THE tract of country between the west coast of India south of Bombay, and the Western Ghats, varying in width up to 50 miles, has a high agricultural yield of rice and commodities such as timber, mangoes, and salt; there is besides a flourishing fishing industry. The region is well populated.

While the coastal strip south of Mangalore in the southern extremity of the sub-continent is adequately served by railway communications—construction of the line from Ernakulam to Quilon is well in hand—the coastal area between Bombay and Mangalore is at present served only by a few roads and water transport such as country craft, and coastal steamers during the dry weather months. During the monsoon, communication by sea becomes uncertain. The area is not well served by roads, and the rivers do not provide adequate transport facilities. An efficient all-weather system of communication connecting this coastal strip with the rest of the Indian transport system would be of great help in developing the area. A railway from Bombay to the south through the coastal strip would be the solution.

Earlier Schemes

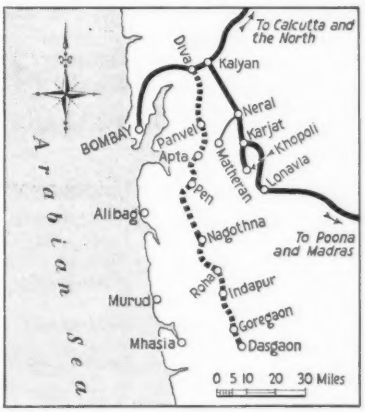
The linking up of this region with the existing railway system was conceived as early as 1894, when the former Southern Mahratta Railway investigated a proposal to construct a metre-gauge line, described as the Bombay-Konkan Railway, from Karad, on the existing Poona-Mysore metre-gauge section, to Hog Island, on the southern shore of Bombay Harbour. Only a reconnaissance was carried out.

In 1918, when Tata & Sons put forward a proposal for the development of an hydro-electric scheme in the Konkan from the waters of the Koyna river at a point between Karad and Chiplun, the building of a railway was again considered.

The former Madras & Southern Mahratta Railway, under the auspices of the Railway Board, carried out a survey in 1919-22 of a line to serve this area from Karad via Chiplun to Ulva Creek. This project, however, proved to be expensive and unremunerative, although the northern portion of the alignment from Dasgaon to Ulva was considered more favourable than the remainder of the line. Simultaneously, in 1920 the Railway Board ordered the detailed survey for a broad-gauge alternative to the Chiplun-Ulva section.

It was clear, however, that any broad-gauge line in this area should not terminate at Ulva but should connect with some station on the former Great Indian Peninsula Railway and form part of that system. The task of carrying out traffic and engineering surveys for this line was entrusted, therefore, to the G.I.P.R. The Railway Board suggested that this broad-gauge line should take off either from Thana or from Mumbra on the G.I.P.R. main line and terminate at Mahad.

A detailed survey for the project from Mumbra to Mahad was carried out by the G.I.P.R. in 1926-27. In the course of this survey, it was found that the best take-off for the new line would be from Diva, between Thana and Kalyan, and that the terminus should be at Dasgaon. The Dasgaon-Mahad Section, some six miles, was found to be extremely costly. Termination at Dasgaon was also found convenient in facilitating extension at a future date



The Central Railway in the Bombay district, showing the course of the projected line to Dasgaon

to Chiplun. Construction could not be undertaken as the initial costs proved high and traffic prospects poor.

The project came up again for consideration during the postwar reconstruction programme, and was linked up with another project, the Kurla-Panvel-Karjat line, which would reduce the distance from Bombay to Poona by about 21 miles. If a justification could be put forward for the Kurla-Karjat line, then the Diva-Dasgaon project would, it was thought, be modified into the Panvel-Dasgaon project.

A traffic survey for the Kurla-Karjat line was ordered by the Railway Board in 1945 and showed a net loss. The preliminary engineering survey was also ordered by the Board in 1946, but the cost of construction was found to be heavy. Traffic and engineering Surveys for the Diva-Dasgaon alignment were also begun in 1948, but were discontinued as traffic prospects did not prove satisfactory.

The Central Railway, which absorbed the G.I.P.R. in 1951, has again taken in hand preliminary engineering and traffic surveys for construction of a line 93 miles long from Diva to Dasgaon. The surveys will enable an assessment to be made of the cost and the financial prospects of constructing the line in the light of present-day developments. The line would form a part of a coastal railway from Bombay to Mangalore.

The objects of the proposed railway are threefold. It will serve to open up the portion of the Konkan south of the existing Central Railway main line from Bombay to Kalyan; it will increase facilities for exploiting indigenous production in this area and for assisting the salt trade on the coast; and it will assist in the development and utilisation of the electric power which will be made available in the area traversed by the proposed railway on the completion of the Koyna hydro-electric scheme.

Developing Bombay Suburban Service

A good passenger train service will also serve to develop a part of this area up to Panvel as a suburb of Bombay, and will facilitate the transport of labour to the industrial concerns in and around Bombay.

Preliminary surveys for the Diva-Dasgaon project were begun early this year. They will cover the alternatives of construction, for a broad as well as a metre-gauge line as also the relative merits and cost of operation of steam or diesel on either gauge. A detailed assessment of financial prospects will be made on the basis of current developments in this area and future growth of towns and industries.

FINE FOR PUTTING FEET ON CARRIAGE SEAT.—A passenger who "absent-mindedly" put his feet up on a carriage seat has been fined £2, with 13s. costs, at Solihull, Warwickshire. The guard of a Birmingham-Leamington train in which the passenger travelled, and a railwayman who travelled in the same compartment, said that the passenger kept his feet on the opposite seat after being told that it was not permitted. A carriage examiner said that the marks left on the seat required a vacuum cleaner to remove them.

PLAQUE UNVEILED ON BRITISH RAILWAYS PACIFIC LOCOMOTIVE.—At Haymarket Locomotive Depot, Edinburgh, on October 21, a coloured plaque depicting a kingfisher in flight was unveiled on class "A4" locomotive No. 60024, *Kingfisher*, by Lieutenant A. F. Mortimer, R.N., of Donibristle, who designed and made the plaque. Mr. G. H. K. Lund, Assistant District Motive Power Superintendent, presided at the ceremony. During the war, another locomotive of the same class was named *Merlin* after the Royal Naval Air Station at Donibristle, to commemorate the association between the Royal Navy in Scotland and the former L.N.E.R.

Stainless-Steel Stock for the Canadian Pacific

Fifteen complete trans-continental trains to work in the Montreal-Vancouver service

THE Canadian Pacific Railway is taking delivery of the first of the streamlined, stainless-steel passenger stock ordered from the Budd Company, Philadelphia, U.S.A., at a cost of some $40,000,000. The order which consists of 30 first class coaches, 18 restaurant, 18 dome observation sleeping, 18 baggage cars, 18 dome coaches, 42 sleeping cars with roomette and drawing-room accommodation, and 29 roomette sleeping cars with seating accommodation. The new stock, as received, is to be placed in service on existing trains until complete delivery is made, after which the stock will form 15 complete trains for operating on the Montreal-Toronto-Vancouver service.

The cars are 85 ft. over couplers, 10 ft. 0⅜ in. maximum width, and the height from rail to roof of the dome is 15 ft. 10 in.; other cars are 13 ft. 6¼ in. from roof to rail. A feature of the construction of the rolling stock is the close liaison between the American builders and Canadian suppliers of equipment who are supplying materials to the value of some $7,000,000. This equipment includes among others draft gear, bogie castings, air-conditioning equipment, water coolers, roller bearings, interior fittings, and so on. Much of the equipment has not been previously produced in Canada.

Budd Disc Brakes

The cars will be fitted with an improved disc brake, the Budd C.F. type, in which the braking action is accomplished by the application of asbestos compound shoes applied by air-pressure to a special air-cooled cast-iron disc mounted to the inside hub of the wheel. A special air-cooling device prevents over heating even with repeated application, which is said to be necessary on Canadian trans-continental trains.

Design Features

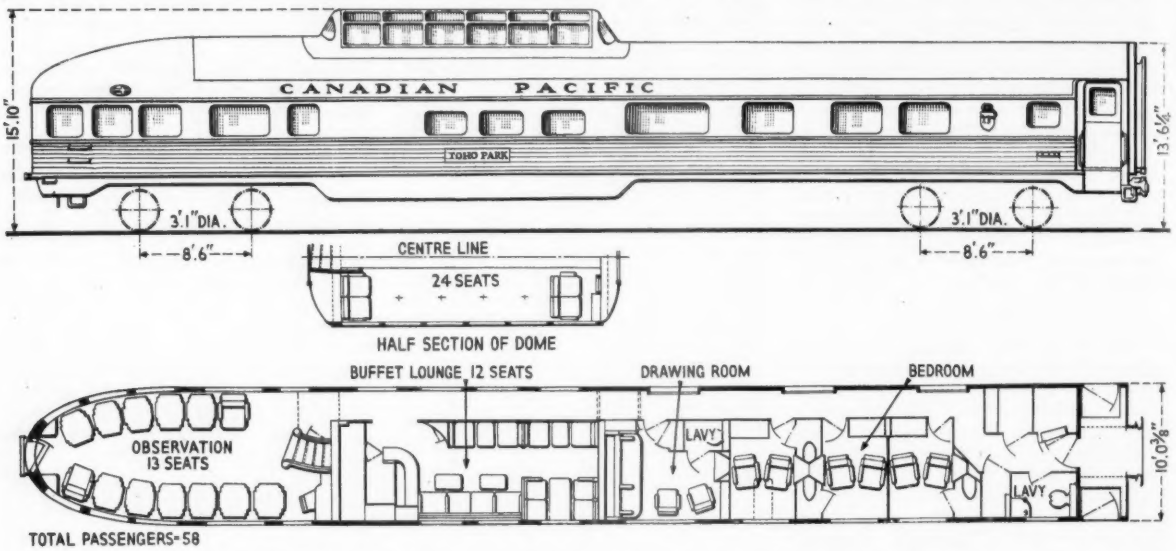
The exterior of the cars are unpainted stainless-steel, except for the standard Canadian standard tuscan red colour of the letter board with Canadian Pacific in gold lettering, and a red stripe on the moulding below the windows; the C.P.R. beaver emblem is cast in relief and located at the four corners of each car. The feature of each train will be the dome lounge sleeping car.

In the leading end forward of the dome are located three double bedrooms and a drawing room. Two of the bedrooms can be arranged to form a suite if desired, as these are separated by a folding partition. Immediately beyond the drawing room is a stairway under the dome and past a lounge which has accommodation for 12 passengers. Each of the 18 dome cars will be decorated with murals by Canadian artists.

At the end of the passage a stairway leads into the observation lounge behind the dome, accommodation is provided for 13 passengers. Adjacent to the stairway is a writing desk. The observation dome is reached by a curved stairway. Accommodation is provided for 24 passengers, all seats are of the non-reclining type with adjustable leg and foot-rests. Seats are constructed with foam rubber cushions, and arm rests equipped with ash receptacles. The stairways and passenger compartments are carpeted throughout.

The sleeping cars, of which 29 are to be built, have accommodation for 25 passengers, and five different types of accommodation is provided. At the leading end, four open sections are arranged with lower and upper berths. These can be converted into settees for daytime use. Toilet and washroom facilities are adjacent.

In the centre portion are located three double bedrooms and a three-passenger drawing room, all featuring disappearing beds to form a daytime living room with movable chairs and



Elevation and plan of dome lounge sleeping car, showing arrangement of seating

adjoining toilets. A separate lavatory and dressing table combination in each room with a three-way mirror are provided. Taps for iced and filtered water are provided. In this layout also a folding-sliding compartment between the double bedrooms can be opened to accommodate a party of four.

Drawing Room and Roomettes

The drawing room has longitudinal disappearing upper and lower berths and a transverse lower berth convertible to a sofa for day use. Very compact accommodation is provided by upper and lower duplex roomettes, two of each being located on each side of the centre aisle. The upper roomette is provided with a folding berth, and the lower with a simple sliding type; each room has individual toilet facilities. Adjacent are luggage shelves and soiled linen locker. Floors are carpeted throughout.

Open type, first class coaches, of which 30 are on order, have accom-

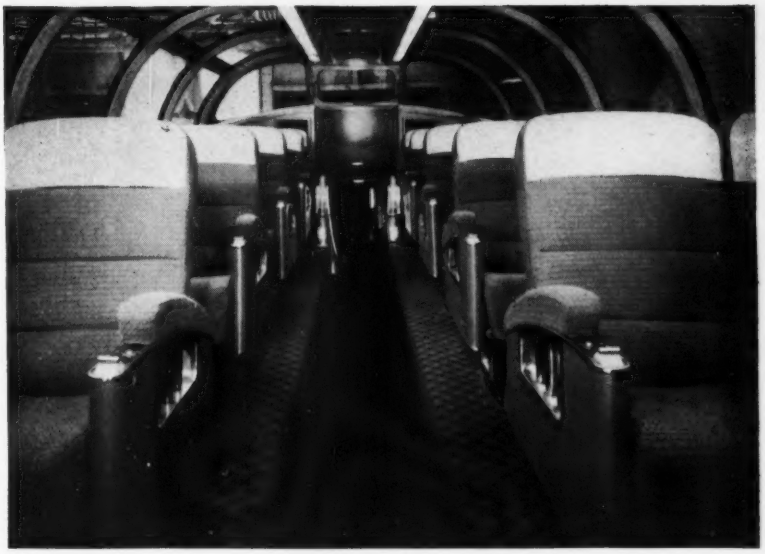
modation for 60 passengers. A smoking section for 24 passengers is provided, and is separated from the non-smoking section by a glass partition. Rotating reclining seats are fitted with adjustable head and foot-rests, ash trays are fitted in the arm rests. Separate washing and toilet facilities are arranged at each end of the cars, a dressing table is provided. Interior decoration consists of plastic panels with bright unpainted mouldings.

Panel heating is provided, and a warm air curtain is projected over the interior face of each window during the cold weather to eliminate draughts. The windows are 6 ft. 4½ in. long, cable-type roller blinds are fitted. Continuous parcel racks are fitted on each side of both compartments. The floor covering is entirely of rubber tile blocks.

Scenic Dome Car

The scenic dome car, 18 of which are ordered, has accommodation for 73 passengers. The forward section in front of the dome accommodates 26 passengers, and has seating similar to that of the first class cars. From this compartment two steps lead to a passage under the dome adjacent to which is the kitchen for the preparation of light refreshments. The kitchen is finished in stainless-steel throughout and features a combined coffee and hot water boiler, an automatic dishwasher, frozen food compartments, a refrigerator, and other amenities.

The remainder of the dome area is given over to a six-passenger buffet section, separated from the corridor by clear glass panels. The decoration includes a large mirror, and a mural which is on the left transverse walls. Steps lead up to a 17-passenger buffet, which has a combination of curved settees, seats, and tables. Access to the dome is by a stairway. Accommodation is provided for 24 passengers, and features non-reclining, fixed seats similar to the dome lounge car. A toilet and lockers occupy the areas beyond the buffet section.



Dome section passenger accommodation of the dome sleeping car, showing fixed seats and arrangement of lighting in the roof

A conductor's seat, folding desk and electric cooker are provided on one side of the aisle, and a ladies toilet is arranged inside the vestibule on the opposite side. Roller and venetian blinds are provided in the passenger compartments. The aisle, buffet, stairway and dome section are carpeted, otherwise rubber tile blocks are fitted; parcel racks are provided.

The restaurant cars, 18 of which are being built, have accommodation for 48 passengers, while the centre portion of the dining room has movable chairs for 32 passengers. The interior is also finished in plastic panels with bright unpainted mouldings, and features a ceiling having a night sky motif.

The windows in each section are 4 ft. 8½ in., and 5 ft. 7½ in. long, respectively. Da-Lite control venetian blinds and draped curtains are fitted. The floor is covered with a carpet. The remainder of the car is taken up by the kitchen and pantry, which is of stainless steel. Amenities include electro-mechanically operated refrigerators, an automatic dishwasher, coffee urn, hot water boiler, and so on. Cooking is done on a propane gas operated range. The floor is tiled.

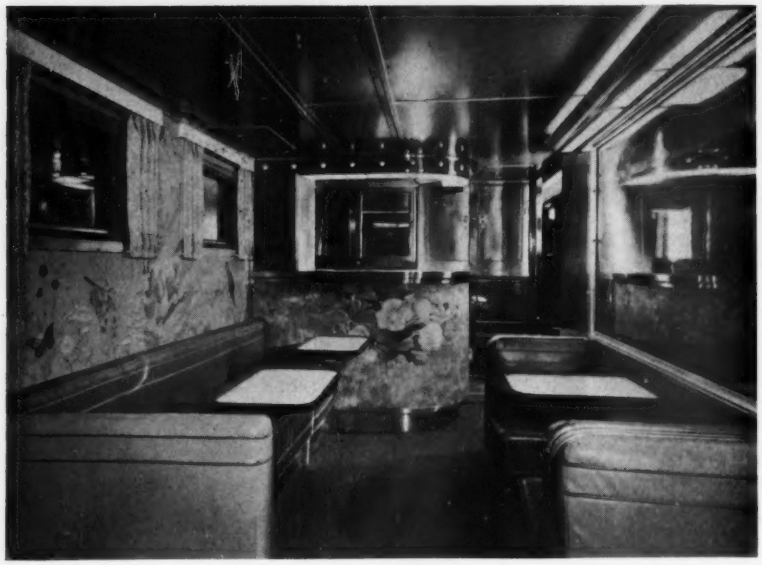
The sleeping cars for 24 passengers, 42 of which are ordered, are a combination of roomette, bedroom, and open compartments. As in the drawing room sleeping cars, bedrooms can be opened to form separate suites. At the vestibule end are located four full-size roomettes on one level. Design is such that passengers do not require to open the sliding passage doorway to raise or lower the folding berth. A combination dressing table and separate toilet and lavatory are provided, similar to that at the non-vestibule end of the car. The floors are carpeted.

Observation end of dome lounge sleeping car; the inner face of the windows is warmed by a hot air curtain

Baggage-Dormitory Cars

The baggage-dormitory cars, 18 of which are being built, provides accommodation for a train staff of 17. The stewards' room has an upper and lower bunk, wardrobe and other facilities, a separate section provides accommodation for 15, in triple tier bunks. Adequate locker space, washing and toilet facilities are provided which includes a stainless steel shower. The baggage section is 47 ft. 6 in. long, and has lockers, a desk, electric water cooler, hot plate, and toilet facilities. The car has a load capacity of 35,650 lbs.

A feature of the trains is the public



Buffet lounge of the dome sleeping car, showing the arrangement of seating and interior mural decoration

address system which is wired for three channels. The system amplifier is located in the dining car, with individual speakers throughout the train, with the exception of the baggage car. Each bedroom is equipped with a selector switch and volume control for passenger use.

The cars are heated by means of a low-pressure steam system supplied by the Vapor Heating Corporation. Stainless-steel heater guards are placed at floor level, and operate in conjunction with overhead heating coils which form part of the air-conditioning evaporator units. The system is such that heated air rises behind the inside panels, thereby projecting a curtain of warm air over each window. Dome cars are equipped with a sensitive thermostat which automatically reduces the amount of cooling in relation to the outside temperature.

Pressurised Water Tanks

All cars are equipped with Freon type air-conditioning units of varying capacity. An overhead mounted unit, complete with a single-speed direct-driven blower motor assembly, delivers air through the evaporator and heating coils to main air-distributing duct by means of a fabric connecting duct; dome cars have a two-speed unit. The compressors are mounted in the under frame. The water supply is contained in stainless-steel air pressurised tanks enclosed in an insulated casing. Drinking water is chlorinated, filtered, and cooled by electro-mechanical water coolers. Sleeping cars have a pump-operated circulatory system with individual outlets in each room.

Battery-Operated Fork Truck

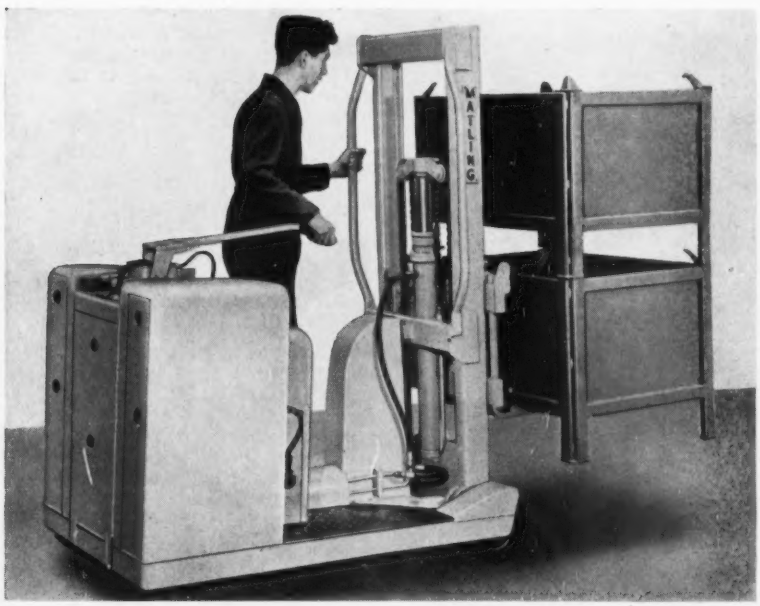
Designed with a 2,000-lb. capacity

THE use of stillages and pallets is a recognised part of mechanical handling equipment as a means of saving space in storage depots, inter-shop transfer of materials in engineering workshops, and the loading and unloading of railway wagons, and also station platform working, to the extent that much has been done to standardise the size of pallets.

Matling Limited, of Wolverhampton, has recently added to its range of fork-lift trucks by the production of a battery-operated model of 2,000-lb. capacity; this machine was demonstrated for the first time at the Mechanical Handling Exhibition, held recently at Olympia.

The fork-lift truck, which is shown in the accompanying illustration, can be operated either as a ride-on unit, or as a pedestrian controlled truck.

It is being produced as a single-mast model, and also with telescopic lift to clear doorways and other overhead obstructions, at the same time permitting stacking to maximum height in storage areas.



The Matling battery-operated fork-lift truck of 2000-lb. capacity

SAFE DRIVING AWARDS TO SCOTTISH REGION STAFF.—Mr. W. F. Quin, Chairman of the Licensing Authority for Public Service Vehicles, Scottish Traffic Area, recently presented medals and other special awards to 140 British Railways, Scottish Region, motor drivers and carters in the Glasgow Area who were successful in the annual safe driving competition promoted by the Royal Society for the Prevention of Accidents. The ceremony was held in the Staff Canteen at Buchanan Street Goods Station. Mr. J. M. Fleming, District Goods Superintendent and Mr. J. McMaster, District Passenger Superintendent, Glasgow, were present.

Air-Pressure Unloading of Cement

British Railways experiment with bulk cement wagon, cement-carrying road vehicles, and prototype portable blower unit

Loading twin spherical pressurised tanks; the tanks have a capacity of 7 tons 15 cwt.

RECENT collaboration between British Railways, the Cement Marketing Co. Ltd., and Sir George Godfrey & Partners Limited, Hanworth, Middlesex, enabled valuable experience to be gained in rail-road movement and handling of bulk consignments of cement. The intention of the demonstration, staged by the Western Region at Brentford Town goods depot, was to prove the discharge efficiency of a prototype railway wagon, and to gain knowledge of the speed with which large quantities of powdered solids could be transferred from this to road vehicles, by means of a portable blower unit.

Experimental Hopper Wagon

The equipment used was an experimental hopper wagon, built by the Eastern and North Eastern Regions at Shildon Works, to British Transport Commission design. This vehicle, of 20 tons capacity, constructed of steel, is fully enclosed and equipped with two filling hatches at the top. The hopper wagon also has an air-slide apparatus at the base of the tapered sides. A 2-in. air inlet valve is incorporated in the construction, with a 4-in. discharge pipe.

The equipment also included two bulk cement carrying road vehicles supplied by the Cement Marketing Co. Ltd. One of these was a semi-pressurised cylindrical tank of approximately 7 tons 15 cwt. capacity. It was hopper shaped at the rear with a 4-in. dia. discharge outlet between the back wheels. The second vehicle used had twin spherical pressurised tanks with an approximate total capacity of 7 tons 15 cwt. The front sphere is discharged through a nozzle on the near-side of the vehicle and the other from the rear.

The prototype portable pneumatic unit used with the experiment was specially produced by Sir George Godfrey & Partners (Industrial) Limited, Hanworth, Middlesex. This apparatus, constructed of a light channel frame some five feet in length and 3 ft. 6 in. wide, was mounted on two light pneumatic-tyred wheels at one end, and a central-castor solid rubber-tyred wheel at the other. Mounted on the frame was a Roots blower, operating at 2,900 r.p.m., capable of operating against a delivery pressure up to 10 p.s.i.

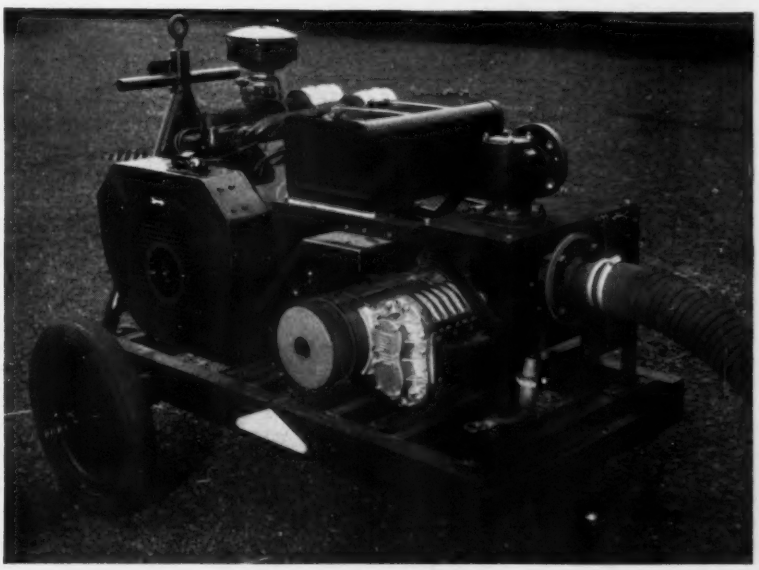
The blower was driven through vee-belts by an air-cooled Petters four-cylinder petrol engine type P.A.V.4, developing 19 b.h.p. at 2,000 r.p.m. The four gallon petrol tank was mounted above the blower. The whole appliance weighed approximately five cwt. and could be moved quite easily by hand or motor vehicle, by means of a light drawbar provided. In order that conditions governing the demonstration should be normal, arrangements were made with the Cement Marketing Co. Ltd. to load cement at its Hope Works and forward the traffic to the Brentford Town depot, a distance of 164 miles, thus obtaining the consolidation of the cement which occurs during transit in bulk of such traffics.

Maximum Air-Pressure

For effective discharge it is essential, once the air pipe line and discharge pipe are connected, to build up maximum pressure before a discharge valve is opened. This operation occupied one minute.

From the opening of the discharge valve, the cement flowed from the railway wagon into the road vehicle at a rate of approximately one ton every 67 secs.; this rate of handling was maintained until the whole wagon had been cleared.

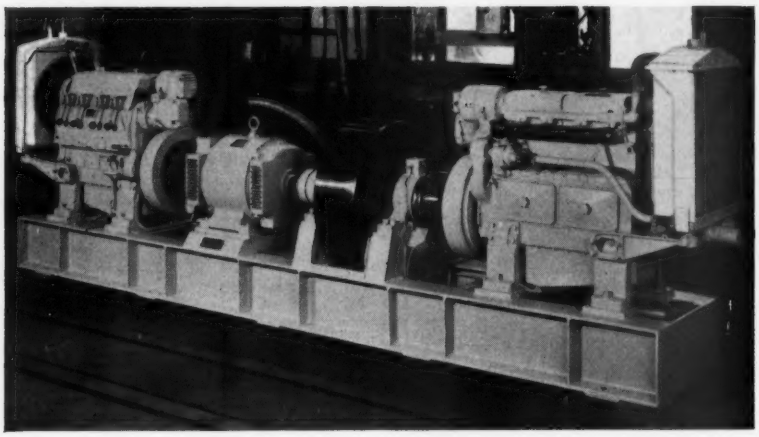
Subsequent weighing of the road tankers proved that 100 per cent discharge had been achieved at a speed which would afford considerable saving in handling costs. It is estimated that the petrol consumed by the blower-unit would cost approximately 3d. for each ton of cement moved.



Prototype pneumatic unit incorporating a Roots blower operating at 2,900 r.p.m.

Diesel-Operated Power Plant

Continuity of supply and no-break standby for a.c. mains



Typical Austinlite fully-automatic 10-kW. No-break double-engine set for unattended sites where no electric mains exist

A DEMONSTRATION was given recently to members of the Press, of two sets of Austinlite No-break power plant. Two applications of this equipment were shown: the first, a double-engined set designed to provide completely reliable electric supply where no mains are available, and to run unattended for four weeks at a time; the second, a single-engined alternator set which will ensure utter continuity of supply should the local electric mains fail, or fluctuate beyond reasonable limits. (On restoration of the mains supply, the set will synchronise its own output with the mains before shutting itself down.)

Automatic Changeover

In the double-engined set the engines automatically change over duty each week. The set is brought into operation initially by energising one of the magnetic clutches to connect its engine to the flywheel and alternator; that engine is then started by hand-cranking. Automatic changeover of the duty engine is achieved by clutching the stationary engine to the running set, the duty engine being maintained in operation until the incoming engine takes over the drive to the alternator.

Should the incoming engine fail to come up to speed, it is de-clutched, and the duty engine will continue to drive the alternator.

Drive by Standby Engine

In the event of the duty engine failing, it is de-clutched from the flywheel, and the stationary engine is clutched on to the flywheel; this standby engine starts and takes over the drive. Provision is made to indicate fault conditions and to give an extended alarm. The set includes two Lister FR, multi-cylinder diesel-engines, one mounted at each end, operating at 1,500 or 1,800 r.p.m., for 50 or 60 cycles respectively.

When the set is required to run unattended for periods up to one month, the engines are arranged for dry sump lubrication with a large storage tank for each engine.

A high-capacity fuel tank is included, together with make-up water tanks for the radiators.

Magnetic Clutch

An Austinlite pre-aligned electromagnetic clutch with easily replaceable friction lining is fitted. The two clutches are pre-aligned on the flywheel and alternator shafts, and are fitted with ball bearings.

The friction plate has a semi-flexible coupling to the engine flywheel; the clutch is complete with slip-rings and carbon brushes, all continuously rated. The flywheel is a steel forging, and the complete unit is dynamically balanced after it has been assembled; self-aligning ball bearings are fitted.

Centrifugal Switch

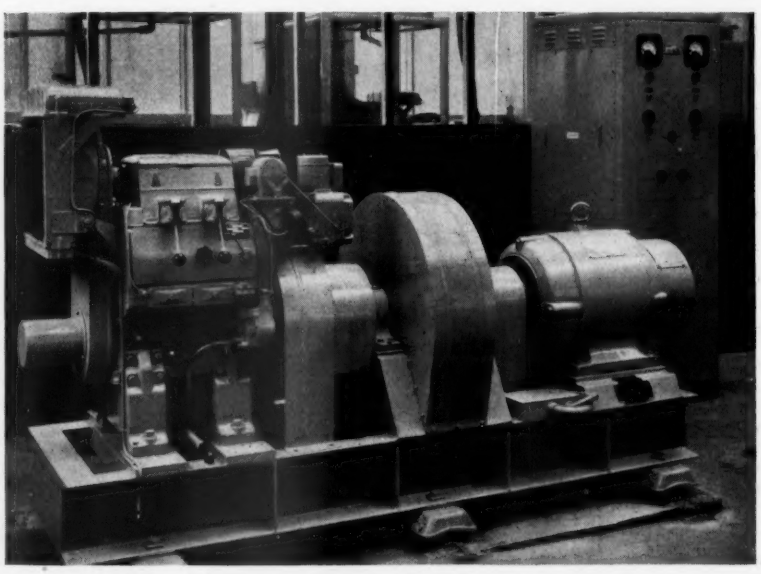
The alternator is semi-flexibly coupled to the flywheel at one end, and carries the magnetic clutches at the opposite end. The alternator is of the enclosed ventilated type, continuously rated, and arranged to provide for operation with a static automatic voltage regulator.

A centrifugal switch is belt-driven from the alternator shaft to detect speed variations. Control switchgear is built into a floor-mounted cubicle. A fully-floating automatic battery charger is provided to maintain charge-in control battery circuit.

Automatic Starting

The Austinlite No-break power plant is a fully automatic, flywheel type, self-synchronising engine-alternator set, and provides for automatic starting of the engine on mains failure, and automatic re-synchronisation of the alternator with the mains. On failure of the mains supply, the immediate voltage variation in the supply to the load will

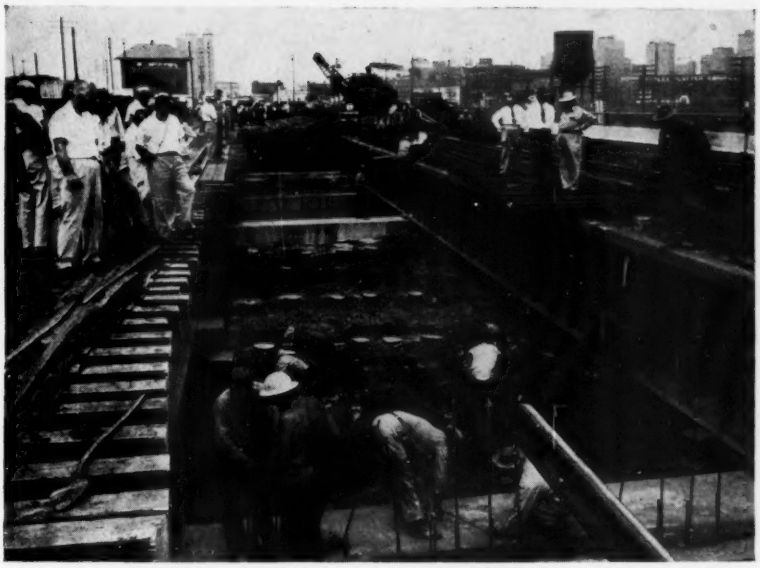
(*Continued on page* 550)



Austinlite 5-kW. fully-automatic No-break mains supply standby power plant using the Eccosyn automatic synchronising system

Underbridge Rebuilt under Heavy Traffic in Texas

New superstructure erected in halves on travelling bents



Half of new span complete with tracks and points ready for rolling into gap left by removal of one track and temporary bridge under it

IN 1891 an underbridge, consisting of two spans, each of 33 ft., was built to carry a four-track section of the Texas & Pacific Railway over Boaz Street, in Forth Worth, Texas. This street was recently converted into an expressway, the width of which necessitated the replacement of the bridge by a new structure, having two 78-ft. spans 70 ft. in width, supported by a concrete pier and abutments, and with a deck-type multiple plate-girder superstructure. Not only does the new bridge carry four ballasted tracks but also five turnouts, over which a considerable volume of important traffic moves.

To minimise interruption of this traffic as far as possible, the tracks were first carried on a temporary bridge before rebuilding could begin, because the new bridge is 90 ft. longer than was the old. The old decking was removed from under one track at a time, but the girders were used for temporary spans. The tracks, 45 ft. in each direction beyond the old abutments, were carried on piling. The new abutments and pier were then constructed under the temporary bridge by the Pumpcrete method; the surfaces of the abutments and wings that would not eventually be exposed were treated with a waterproofing compound.

Half-Superstructure Assembled

The new superstructure—consisting mainly of 24 continuous girders and a steel decking—was assembled in two halves, one half (measuring 156 ft. long and 35 ft. wide) on each side of the temporary bridge. The assembly falsework under each half took the form of three transversely-travelling steel bents, one near each end and the third near the centre of the bridge. Each of the six bents was 35 ft. long and 12 ft. high, its lower portion consisting of a steel grillage mounted on two rows of double-flanged runners. Each row ran on a rail bearing on steel beams with timber and steel foundations arranged transversely to and beneath the bridge. The upper part of the bent was composed of two systems of steel beams each having a central column and diagonal struts branching from it. This beam-system was supported by two hydraulic jacks on the grillage, to ensure that the superstructure was kept level during erection and rolling, and subsequently to lower it on to is permanent bearings.

Assembly on these bents was complete, including waterproofed steel decking, concrete side-walks, parapets and tracks, temporarily raised up on packings to the final level that would be required when ballast was eventually spread.

Rolling In

The two halves of the superstructure were rolled into final position at dates six weeks apart. To make room for the first half, the outer track on that side of the temporary bridge and the bridgework under it were first removed by locomotive crane. Meanwhile, block and tackle haulage connections had been made between the three travelling bents and winches on three 1½-ton lorries suitably anchored. The first half was thus rolled inwards about 15 ft.

The inner track and the temporary bridgework under it were then removed and the half-superstructure was again similarly rolled in on to its final alignment and lowered by the jacks on to

Half span, 35-ft. wide and 156-ft. long, assembled on travelling bents ready for transverse rolling into position

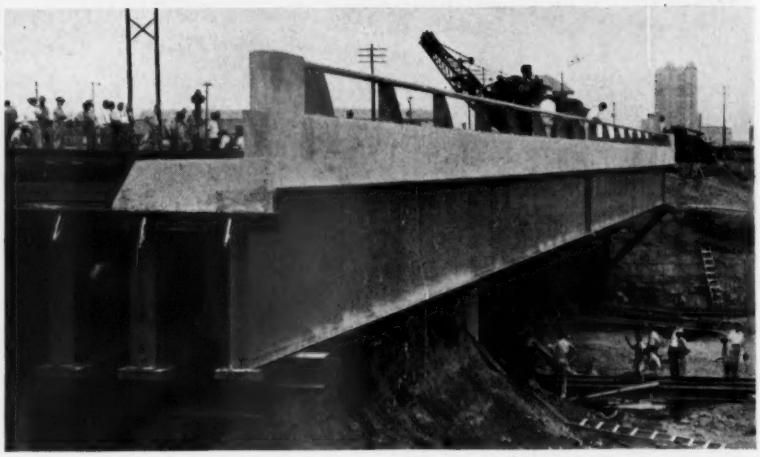
XUM

its permanent seatings. As the 12 main girders in each half-superstructure necessitated 36 bearing plates, these plates were attached to the girders with cap screws during assembly, so that the half-superstructure could be placed on the pier and abutments with all anchor-bolt holes in precisely the correct positions. The other half of the superstructure was similarly assembled on the other side of the temporary bridge, and on its travelling bents was rolled into position.

Weight of Steelwork

The total weight of the steelwork was 725 tons and 1,500 cu. yd. concrete went into the new sub-structure. The new R.C. wing-walls were subsequently constructed when the removal of the rolling-bent system made this possible.

The work was carried out under the general direction of Mr. R. J. Gammie, Chief Engineer of the Texas & Pacific Railway, and was directly supervised by Mr. A. G. Rankin, Bridge Engineer of the system, which, though it is a subsidiary of the Missouri Pacific Railroad, is operated independently and has a route-mileage of 1,834.



Three-quarter view of half new superstructure during rolling into position

Diesel-Operated Power Plant

(*Concluded from page* 548)

depend on conditions obtaining on the mains network. With a lightly loaded network, the load-voltage disturbance will not exceed five milli-secs.

Under severe conditions of short circuit the output voltage will fall to zero for approximately 25 milli-secs., and will be restored to 75 per cent normal voltage in 70-80 milli-secs., and to 90 per cent normal volts in 120-125 milli-secs. The alternator will be synchronised with the mains when the mains supply voltage on all phases is restored within six per cent of the nominal. During synchronisation the supply to the load will exhibit no voltage variation but the frequency will be varied two per cent from the nominal.

As with the twin-engine set initial starting is by energising the magnetic clutch to couple the engine to the flywheel and alternator. The engine is cranked up to firing speed, it will then fire, and accelerate the flywheel and alternator up to correct supply speed. On connecting the mains supply the alternator will be automatically synchronised, and the engine de-clutched and stopped. On a mains failure, the mains contactor opens instantly, and the machine field is switched from the motoring condition to generating with automatic voltage control.

At the same time the magnetic clutch will be energised, and the inertia of the flywheel accelerates the engine to supply speed while maintaining the alternator output. On the restoration of the mains supply, the engine speed is varied ± two per cent, and, when the alternator and mains are in synchronism, the mains and standby supplies are paralleled; both operations are automatic. The alternator reverts to the motoring condition and the engine will be de-clutched and stopped. The engine unit is similar to those in twin-engine set.

The products of Austinlite Limited, of Smethwick, include automatic electric generating plant, rotary switches, voltage regulators, and other electrical equipment. The firm is now a wholly-owned subsidiary in the J. Stone & Co. (Holdings) Ltd. Group, as a result of Chance Brothers' engineering interests having been purchased by this company. J. Stone & Co. (Deptford) Ltd., is also a wholly-owned subsidiary in this group of companies.

ROAD ACCIDENTS IN AUGUST AND SEPTEMBER.—Casualties from road accidents in September totalled 21,933, 1,534 more than in September, 1953, though the number killed was down by five. The number of persons slightly injured increased by 1,222 and the seriously injured by 317. A disturbing feature of the figures for the first eight months of 1954 is stated by the Ministry of Transport & Civil Aviation to be the increase in the number of casualties during the hours of darkness. On the other hand, in the first eight months of this year there were 136 fewer fatal casualties among children, a decrease of 24 per cent compared with the same period last year.

INTENSIVE FOOTBALL EXCURSION TRAFFIC IN THE SCOTTISH REGION.—In connection with the many important football matches in Scotland on October 23, British Railways, Scottish Region, arranged nearly 40 specials. From Edinburgh Princes Street four special trains ran to Glasgow Central and five direct to Kings Park, with a cafeteria car train from Musselburgh and Edinburgh Waverley to Glasgow Queen Street, also a train from Musselburgh and Waverley direct to Rutherglen for a Shawfield game. Other trains to Kings Park were run from Midcalder, Shotts, Wishaw Central, Motherwell, Hamilton, and other Lanarkshire stations, also eight trains from Glasgow Central to Mount Florida between 1.33 p.m. and 2.14 p.m. Six special trains for Ibrox left St. Enoch Station between 1.43 p.m. and 2.41 p.m., and other trains to Ibrox were operated from Bridgeton Cross, Springburn, and Hamilton.

HOLIDAY CAMP TRAFFIC IN N.E. REGION.—On the Saturdays during the 16 weeks the Butlin's Holiday Camp Station at Filey was open this summer, British Railways, North Eastern Region, ran 118 special trains into the station, carrying 27,099 passengers. Passengers for the camp conveyed to Filey Station by ordinary train totalled 18,245.

INVERNESS & NAIRN RAILWAY CENTENARY.—To mark the centenary of the opening on November 5, 1855, of the Inverness & Nairn Railway, an exhibition illustrative of railway development in the Highlands will be held next year in Inverness. Those willing to lend exhibits such as timetables and other documents, photographs, old uniforms, models, and so on, are asked to write, but not, at this stage, to send the articles, to Miss M. O. MacDougall, the Public Library, Inverness.

R.H.A. AND ROAD HAULAGE DISPOSALS.—Speaking in Glasgow on October 23, Mr. R. G. Crowther, a vice-chairman of the Road Haulage Association, said that the road haulage industry as a whole had backed the denationalisation scheme laid down in the Transport Act, 1953. A little over half of the vehicles offered for sale had been sold, and of these some 65 per cent had been acquired by purchasers who were already engaged in road haulage. Members of the Association who had bought units had gone in again and bought further units, showing their faith in the future of free enterprise and their belief that the policy of denationalisation should be carried out in a practical way. It was necessary to obtain stability of ownership and to free the industry from political interference by any political party. Road haulage must cease to be the plaything of politics, merely for the purpose of enabling political parties to use it as the price of votes at alternative parliamentary elections.

RAILWAY NEWS SECTION

PERSONAL

Colonel K. Brinsmead, D.S.O., T.D., M.Inst.C.E., M.I.Mech.E., (47859) (now A.E.R.) has been awarded the 1st Clasp to the Territorial Efficiency Decoration.

Major D. H. Cameron of Lochiel, T.D. (40877) has been awarded the 1st and 2nd Clasps to the Territorial Efficiency Decoration.

Mr. Martin O'Sullivan has been nominated a member of the board of Aer Rianta. Mr. O'Sullivan is one of the five members of the Great Northern Railway Board.

Mr. H. R. Caulfield-Giles, M.Inst.T., has been re-elected Chairman of the Traders' Traffic Conference for the fifteenth successive year; Mr. W. Ingleson has been re-elected Vice-Chairman, and Mr. A. W. H. Bowler, Hon. Treasurer.

Mr. G. Pande
Appointed Chairman of the Indian Railway Board

Mr. K. P. Mushran
Appointed a Member of the Indian Railway Board

Mr. G. Pande, General Manager of the Ganga Bridge Project, who, as recorded in our October 29 issue, has been appointed Chairman of the Indian Railway Board, was educated at Muir Central College (Allahabad University), and Roorkee Thomason Civil Engineering College. He became an apprentice engineer on the former East Indian Railway in 1925, and, in the following year, he became Assistant Executive Engineer. Between 1927 and 1928 he was on the Rikhikesh-Karanprayag railway survey, becoming Assistant Executive Engineer, Open Lines, in 1929. Mr. Pande was appointed Superintendent, Way & Works, Allahabad, Moradabad and Dinapore, in 1940; Personnel Officer (Senior Scale), Asanol and Headquarters Office, in 1942; Executive Engineer, Construction & Doubling, in 1944; and Deputy General Manager (Planning), in 1946. Between 1947 and 1948 he was Joint Director, and later, Director, Civil Engineering, of the Railway Board. In 1948 he became Divisional Superintendent, Dinapore, East Indian Railway, and, later in the same year, Engineer-in-Chief, Ganga Bridge, Mokameh. He served again as Director, Civil Engineering, Railway Board 1949-50, became General Manager, Oudh Tirhut Railway, in 1950, and General Manager, North Eastern Railway, in 1952.

Mr. K. P. Mushran, General Manager of the Western Railway, India, who, as recorded in our October 29 issue, has been appointed a Member of the Indian Railway Board, was born on January 1, 1903, and educated at the Government High School and Muir Central College in Allahabad. He qualified as a Civil Engineer from Thomason College, Roorkee, in 1925, and, in the same year, was appointed to the Indian Railway Service of Engineers. He was posted to the North Western Railway and served in the Punjab, Sind, and Baluchistan on open line and construction, and later as an Establishment Officer. Just before Partition, Mr. Mushran was successively Divisional Superintendent, Delhi; Deputy General Manager, Lahore; Deputy Chief Engineer on Special Duty; and Divisional Superintendent, Rawalpindi. In June, 1947, represented India as a member of the delegation to the International Railway Congress at Lucerne. Mr. Mushran was appointed Director, Establishment, Indian Railway Board in October, 1947. In September, 1949, he became General Manager of the Bombay, Baroda & Central India Railway. He was appointed General Manager, Western Railway, in 1951.

Mr. M. G. Heyns, Assistant Manager, Publicity & Advertising, Johannesburg, South African Railways, has been appointed Manager, Publicity & Travel Department, Johannesburg, succeeding Mr. C. W. Harrison, who is retiring on November 18, 1954.

The following have been appointed members of the Transport Users Consultative Committee for the Yorkshire Area:—

Councillor W. Bridge (representing Agriculture); Messrs. J. H. Gibb, H. Bradley, K. Campbell-Cullen, A. B. Shipley, Lt.-Colonel R. S. Goodhind, Mr. W. J. Price (representing Commerce and Industry); Mr. W. Barr (representing Shipping); Messrs. F. Stott, F. Robinson (representing Labour); Councillors N. Bisby, A. Pickersgill, Alderman J. Rafferty (representing Local Authorities); Messrs. F. Grundy, W. M. Hitchcock (representing the British Transport Commission).

Mr. H. S. Rex (Secretary).

Mr. P. C. Mukerjee, M.A.(Cantab.), M.I.E., General Manager of the Eastern Railway, India, who, as recorded in our October 29 issue, has been appointed a Member of the Indian Railway Board, was born in October, 1904, and was educated at Krishnagar Collegiate School, Hastings House, Calcutta, and Clare College, Cambridge. Mr. Mukerjee began his career in the Engineering Department of the former East Indian Railway, where, apart from being in charge of the construction and other engineering works at different places on the line, he was Employment Officer of the Workshops and Personnel Officer both in the Divisions and at headquarters. During the war his services were requisitioned for the Department of Munitions Production, where he successively held the positions of the Deputy Director; Director, Civil Engineering; and Deputy Director-General (Engineering). In 1946 he was appointed Controller of Railway Supplies with the Railway Board; he was also Deputy Director-General (Development) with the Indian Government Industries & Supplies Department. Mr. Mukerjee returned to the East Indian Railway in 1947 as Deputy General Manager (Works), and, after a brief period of service as Divisional Superintendent, he was appointed General Manager of the Bengal Nagpur Railway in April, 1948. In 1949, he became the first General Manager of the Indian Railways Locomotive Works at Chittaranjan. His appointment as General Manager of the Eastern Railway took place on February 1 this year.

Mr. P. C. Mukerjee
Appointed a Member of the Indian Railway Board

Mr. P. N. Saxena, Director, Establishment, Indian Railway Board, who, as recorded in our October 22 issue, has been appointed General Manager of the Western Railway, India, was born in Jhansi (U.P.) in January, 1901. After graduating B.Sc., he joined Thomason College, Roorkee, in 1921. He took his Civil Engineering degree in 1924 with high distinction—two gold medals being awarded to him for first place in Mathematics and Mechanical Engineering. He was appointed to the Indian Railway Service in October, 1924, on the Oudh & Rohilkand Railway which soon after was merged with the East Indian Railway. He spent his first few years mainly on projects and construction work. He attended the Dhera Dun Staff College Refresher Course in 1931 and, in 1938, he assumed charge as Superintendent, Way & Works. From October, 1941, to April, 1945, he worked as Divisional Personnel Officer. In November, 1945, he was promoted to the post of Deputy Chief Engineer and soon after was appointed Deputy General Manager (Grainshops). Two years later he became Deputy General Manager (Personnel). In January, 1948, he was selected as Divisional Superintendent, Howrah, and worked in the same capacity in Moradabad. In July, 1949, he was appointed Director, Establishment, Railway Board, the position he held until his appointment as General Manager of the Western Railway, in October, 1954.

Mr. P. N. Saxena
Appointed General Manager, Western Railway, India

Mr. E. S. Mackay has been appointed Manager of the Leicester branch office of British Insulated Callender's Cables Limited.

Colonel H. H. Gardiner, M.C., Assistant General Manager (Negotiations), Thos. Cook & Son Ltd., will relinquish that position, on October 31, as a result of ill-health. He will remain available in a consultative capacity. Colonel Gardiner is succeeded by Mr. H. H. Robinson, Assistant Negotiations Manager, and Mr. S. G. King has been appointed Assistant Negotiations Manager.

Captain G. H. Allanson, M.B.E., M.C., head of the Eastern Princes Department of Thos. Cook & Son, retired on October 31, when the work of the department was taken over by Mr. Michael Mulvey.

During his 27 years in charge of the Princes Department, Capt. Allanson, now 66, had made travel arrangements for scores of Eastern potentates and is well known to them personally and to their families.

Mr. Mulvey joined the company in 1946 and for the last five years has worked in the Overseas Reception Room at head office, dealing with the travel problems of Eastern and Commonwealth visitors.

Mr. J. R. Quertier, B.Sc., A.C.G.I., A.F.R.Ae.S., has joined the Consolidated Pneumatic Tool Co. Ltd. at the company's London office, where he will apply his wide knowledge and experience to the development of existing products and new lines.

Mr. Quertier was for eight years associated with research in the Gas Turbine Division of Rolls-Royce Limited. He has also been Chief Research & Development Engineer with Reavell & Co. Ltd. For many years

he has been the Honorary Technical Director of the British Compressed Air Society, of which body he was elected Vice-President this year.

Mr. Donald Bastow, B.Sc.(Eng.), M.I.Mech.E., has been appointed Technical Assistant to the Managing Director of Metalastik Limited.

Mr. Douglas S. Lewis, A.M.Inst.T., District Passenger Superintendent, Norwich, has been appointed District Commercial Superintendent, York, North Eastern Region, British Railways.

Mr. W. L. Rigby, Assistant District Engineer, Glasgow (South District), Scottish Region, British Railways, has been appointed District Engineer, Aberdeen, as from November 1, 1954, in succession to Mr. T. W. Brown, who has retired.

Mr. I. L. Jones has been appointed General Agent, Rotterdam, Canadian Pacific Railway, in succession to the late Mr. L. Callaghan. The appointment is effective from November 1, 1954.

Mr. Rowland S. Guy has been appointed a Director of Guy Motors Limited. Mr. D. E. Hughes, Secretary to the company since 1949, has been appointed Financial Director.

Mr. Edgar F. Whitmore, Jr., has been elected Vice-President of Shippers' Car Line Corporation. Mr. Whitmore, formerly Assistant Vice-President, will be in charge of the corporation's Chicago territory, succeeding the late Mr. A. W. Johnson.

Maj.-General Sir John N. Kennedy, G.C.M.G., has been elected a Director and Chairman of Cowans, Sheldon & Co. Ltd., succeeding Mr. J. B. Pearson, who relinquished the position a year ago after 40 years of service with the firm.

Mr. E. Ransom Harrison, who has been Chairman of the Rover Co. Ltd. since 1932, has resigned from the board for reasons of ill-health. Mr. H. Howe Graham, who was first elected to the board in 1932 and became Deputy Chairman in 1952, has been elected Chairman.

Mr. G. A. Rendle, B.Sc., M.I.E.E., has been appointed a Director of British Insulated Callender's Construction Co. Ltd., and becomes Manager (Cable Contracts) in succession to Mr. C. H. Frankland, M.I.E.E., who, while remaining a Director of that company, has undertaken special duties at the Trafford Park Works of British Insulated Callender's (Submarine Cables) Limited. Mr. C. Kibblewhite, M.I.E.E., has also been appointed to the board of B.I.C. Construction Co. Ltd. as an Executive Director.

INSTITUTION OF MECHANICAL ENGINEERS

The following elections have been announced by the Institution of Mechanical Engineers:—

Member:—

Mr. I. C. Joseph, Mechanical & Electrical Engineer's Department, Works Manager's Office, London Midland Region, British Railways.

Association Members:—

Messrs. L. Collins, B.E.(*Ireland*), Coras Iompair Eireann, G. W. Hendry, B.A. (*Cantab.*), Dorman Long & Co., Ltd., R. Mealand, Rover Co. Ltd., W. E. Morgan, Imperial Chemical Industries Limited, D. J. V. Murray, D.F.C., B.Sc.(Eng.)(*Lond.*), Babcock & Wilcox Limited, G. W. Stokes, Guest Keen & Nettlefolds (Midlands) Limited, L. W. Watson, Imperial Chemical Industries Limited, B. Wolpert, B.A.(*Cantab.*), English Electric Co. Ltd.

Mr. J. K. Denny, Sales Secretary of Leyland Motors Limited, has retired after nearly 36 years of service with the company.

We regret to record the death on October 30, of Mr. W. R. Beldam, F.I.R.I., Director of Auto-Klean Strainers Limited and Beldam Asbestos Co. Ltd.

Mr. H. Dudley Parsons, District Manager in Plymouth for the Dunlop Rubber Co. Ltd., retired last week after 50 years of service to the company.

Mr. W. J. Ebben, Education & Training Officer, Fraser & Chalmers Engineering Works, General Electric Co. Ltd., has retired after 37 years of service with the company.

Mr. F. P. O. Strange has been appointed Sales Manager and Mr. C. D. Wenham, Contracts Manager, of Teddington Industrial Equipment Limited.

Mr. J. B. Scott, C.A., has been appointed Controller& Secretary of the Shell Petroleum Co. Ltd., and the Anglo-Saxon Petroleum Co. Ltd. He is succeeded as Deputy Controller by Mr. G. S. Paterson.

Mr. H. W. Roberts, A.M.I.E.E., Manager of the Blackburn branch of the General Electric Co. Ltd., has retired. He has been succeeded by Mr. H. F. North, formerly Branch Engineer at Sheffield.

Mr. H. Douglass, General Secretary of the Iron & Steel Trades Confederation, has been appointed a member of the advisory council of the Export Credits Guarantee Department.

Mr. K. A. Maclean, B.Sc. (Eng.), A.M.I.Mech.E., who until recently was Assistant to the General Works Manager of the Northern Aluminium Co. Ltd., has been appointed head of the fabricating division of Aluminium Laboratories Limited.

Mr. P. Ralph has been appointed Manager of the Scottish branch sales office of the British Aluminium Co. Ltd., in succession to Mr. M. J. J. Richards, who has become Assistant Manager of the London branch sales office.

We regret to record the death on November 2, at the age of 62, of Major John Maitland Salusbury-Trelawny, M.C., A.M.I.C.E., formerly Divisional Executive Engineer, North Western Railway, India. Major Salusbury-Trelawny retired in 1934.

The British Aluminium Co. Ltd. announces that Mr. P. Ralph has been appointed Manager of the Scottish Branch Sales Office in succession to Mr. M. J. J. Richards, who has been appointed Assistant Manager of London Branch Sales Office. These appointments take effect from November 1.

The Stanton Ironworks Co. Ltd., announces the following appointments:—

Mr. G. R. Buckley to be General Works Manager.

Mr. E. Morgan to be General Manager in charge of Research.

Mr. L. Rawlins to be Commercial Manager.

Mr. J. D. Hickman to be Export Manager.

Following the acquirement of the capital of the Vacuum Brake Co. Ltd. by Birfield Industries Limited, it is announced that Colonel Harry Gresham has resigned his position as Managing Director of the Vacuum Brake Co. Ltd.

The board of the Vacuum Brake Co. Ltd. has been reconstructed as follows:—

Chairman: Mr. Herbert Edward Hill; *Deputy Chairman:* Mr. Michael George H. Brown; *Managing Director:* Mr. William George Pallett; *Joint Managing Director:* Mr. Sydney Walker; *Directors:* Messrs. Ranald H. Harvey and W. F. Hardy; *Sales Director:* Mr. A. Sydney King, with offices at 137 Abbey House, Victoria Street, London, S.W.1.

Winter Services in Belgium

The winter timetable of the Belgian National Railways, applicable from October 17, has a preface by the Operating Superintendent, Monsieur M. Crem. Although some electric working began on the Brussels-Ostend line on June 26, full electric operation came in only with the present timetable, enabling the journey time to be cut from 84 to 75 min. for the 121 km. (75 miles), with a stop of 3 min. at Ghent and one of 2 min. at Bruges. An hourly service is provided, leaving Brussels Nord at 46 min. past the hour and the Midi station, via the new connecting line, at each hour exactly. Departures from Ostend are at 50 min. past the hour, the trains passing at Ghent.

There are also extra trains at peak periods between Brussels and Ghent, some of which run through to Bruges, others to Blankenberg. Between Bruges and Blankenberg the service generally has been improved to give connections with the Brussels-Ostend service; there are 22 trains daily, against 16 last winter, mostly diesels. Between Bruges and Knokke also the service has been increased. This section is being prepared for electric operation. An hourly stopping electric service between Ghent and Ostend, with 14 stops, takes 65 min. as against 86 min. with steam traction.

With the introduction of electric traction on October 17 on the connecting line (about 4½ miles) Denderleeuw-Alost, part of the old Brussels Nord-Ghent St. Pierre route, and Brussels Nord and Louvain (19 miles) on the route to Liège, opportunity was taken to inaugurate an hourly service Alost - Denderleeuw - Brussels Midi and Nord-Louvain, stopping throughout, except on the 15 miles between Denderleeuw and Brussels Midi (part of the new line between Brussels Midi and Ghent), where there are no intermediate stations. The rest of the old line to Ghent has not been electrified.

These routes all carry a considerable suburban peak-hour traffic. Journey times have been cut appreciably and at Denderleeuw and Alost connection is made with several other routes also carrying heavy traffic.

Further Electrification

Release of stock by electrification and delivery of a number of diesel sets have permitted still further improvements, as between Brussels Nord and Liège (which will be completely electrified by October, 1955), Brussels Midi and Charleroi (already electrified throughout), Mons and Charleroi, and especially between Liège and Maastricht (Netherlands) where the diesels give a 31-min. shuttle service, against the 48 min. taken by the best through expresses Amsterdam-Basle, with a 15-min. frontier stop. These trains connect at Liège with the expresses to Brussels and Paris.

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Parliamentary Notes

Lords Debate on Railway Reorganisation Scheme

No modification to scheme: need for freedom from political interference: possibility of Government financial statement on British Railways

Viscount Swinton, Secretary of State for Commonwealth Relations, moved in the House of Lords on November 3 that the House take note of the Railways Reorganisation Scheme, which had passed through the Commons.

He said the scheme had the broad approval of a great number of bodies with whom the Minister of Transport had been in consultation. In the light of this agreement the Minister was proposing no modifications to the scheme as prepared by the British Transport Commission.

He quoted from the Minister's introductory memorandum, saying that the British Transport Commission was a policy forming body and the area authorities were also policy forming at area level, and supervisory. They were not intended to be executive organs of day-to-day management, nor are they to be suitably composed for that purpose.

Initiation of New Policy

It was common sense that direct contact should exist between the element of executive management within B.T.C. headquarters and executive management in the person of the Chief Regional Manager in the Regions. New policy itself was more often than in any other way initiated by discussion between those responsible for the daily operation of existing policy. This was an additional reason for direct contact between them. This was no more a by-passing of the area authority than it was a by-passing of the B.T.C. It was merely two policy-making bodies freely admitting that a number of day-to-day matters could be settled by their executive organs and that contact between them was desirable and helpful. The chain of responsibility was from B.T.C. to area authority and from authority to Chief Regional Manager. He thought that set out the chain of command clearly. He believed that it was the only practical system under which the plan could work.

Further Decentralisation

The scheme provided for the setting up of five area authorities in England and Wales and one for Scotland, although some further decentralisation might take place. Once the area authorities were set up it was hoped three results would follow. They were to get as close as possible local contact between the users and the railway, to give to the staff the feeling, and indeed the reality, that the control and relationship with them was close and intimate, and to make not only for more effective supervision and better relationships, but to encourage local initiative.

Lord Lucas said that any scheme for the reorganisation of the railways was unreal unless it embraced a scheme for the integration of road transport. The Government should withdraw this paper and ask the B.T.C. to prepare a properly integrated scheme for the nation's transport system based on their direct experience of the past seven years. If that was done, something between the extremes of the 1947 Act and the 1953 Act would be produced. Some Government would have to do that, probably before the scheme set out in the White Paper became a reality.

Although they had first-class technicians, British Railways fell down today in their commercial approach and their commercial staff. In every area board room should hang the notice, "What does the customer want?" For too long the policy had been that the customer must have what it was convenient for the railways to provide.

Freedom from Politics

Lord Glyn said that the worst part of the scheme was that it had to come before Parliament at all. Since he had been connected with the railways an incredible amount of money had been wasted through the interference of Parliament. The railways wanted peace from politicians.

Parliament should pay tribute to the men who operated British Road Services in the final period, providing traffic receipts of £8,000,000. He was unrepentant in believing that the Transport Act, 1953, was not in the best interests of transport. Against the high receipts of the road services must be placed the great loss on the vehicles which now had to be borne by the taxpayer.

He looked forward to a period of prosperity for the railways, when they would rely more on electric power, and when, because of the congestion on the roads, more people would travel by rail. Atomic energy developments justified the hope that by 1965 the first reactor station would be working. He hoped the electricity so generated would be passed on to the railways.

Lord Balfour of Inchrye said that his misgivings about the scheme were that it centralised the substance of power and decentralised the shadow of responsibility. He doubted whether first-class men in industry would agree to serve for long with the restrictions on policy, finance, and administration which appeared in the scheme.

Lord Hurcomb said that the scheme and the White Paper were full of ideas he had proposed, and language he had used over and over again, in the past four or five years. Long before there was a change of Government he and his colleagues were of the opinion that the original organisation needed overhaul and change. During the six years he was Chairman of the B.T.C. he never saw a report or recommendation from a Regional officer in that official's own language, or in the form he originally made it. He would like to see the scheme proposed in the White Paper tried.

Importance of Central Authority

He would not expect too much in improved financial results from the changes. The Commission should not weaken the authoritative central organisation for dealing with matters which were essentially national in application. The future of the railways would not be helped either by abandoning any part of the ground for unification which had been so hardly won, or by yielding to antiquarian hankerings after old managerial empires, Georgian nomenclature of regions, or Victorian colour schemes.

There was serious competition from road transport, to say nothing of the incipient competition from the air. These were challenges against which it was necessary that railwaymen should direct their energies.

Lord Falmouth hailed the scheme as the green light to the railways to recover their old position as a leading system of the world. He hoped it would aid recruitment, for there was a tendency for bright boys not to enter the nationalised industries because they felt they led to a dead end.

Lord Burden said that the scheme had been produced by the B.T.C. under political pressure. It was a sprag thrown into the works by people who had no desire to see national ownership and control of a major industry successful.

Viscount Swinton said that he presumed that by political pressure Lord Burden meant the terms of the Transport Act, 1953. It was grossly untrue to say that they did not wish to make the railways a success. They, and the Commission, did wish to make them a success.

Railways an Essential Service

The Earl of Selkirk (Paymaster-General) said the B.T.C. was now examining the whole system of costing on the railways and the Government hoped to be able to produce a financial statement which would enable the public to judge sensibly what was happening on the railways. Merely to produce a profit and loss account would not do this. They were sometimes tempted to regard the railways as a survival of Victorian times. He thought it was necessary to remember that the railways were the most important form of internal transport in this country. Of all the passengers travelling internally, 33 per cent of the money they spent went to the railways. With regard to freight over 60 per cent of what was spent on freight carriage went to the railways. It was essential that the finest brains in the country should go into these great nationalised industries. The House would wish Sir Brian Robertson, Chairman of the Commission, and his staff good fortune in carrying through the reorganisation. It was to be hoped that the railways would never again be the subject of political controversy.

The motion was agreed to.

Food and Drugs Bill

When the Food and Drugs Bill was being considered in Committee by the House of Commons on October 26, Mr. Donald Chapman (Birmingham Northfield—Lab.), speaking on a proposed amendment to Clause 6 (which deals with regulations as to food hygiene), said that in Britain we were much too tolerant of dirty, food-bespattered clothes of people serving food. A couple of weeks ago on British Railways, which was doing so much to improve that part of the catering services, a man came to serve him and he could have had a couple of meals off his waistcoat. The regulations ought to include rules about the actual cleanliness of the clothing of people who were serving.

Some time ago, at Victoria Station, where they ought to have the kind of cafeteria or restaurant to impress people, especially visiting Americans to this

country, he went in for a meal in the cafeteria, and found a man going round with a trolley clearing up the debris after meals. The man had a filthy dishcloth, with which he was wiping tables on which some people were putting bread. He had a bandaged finger and presumably was spreading germs by that means, as well as by the dishcloth. The man told him that dishcloths were issued once a week only.

Mr. Heathcoat Amory (Minister of Food) said he entirely agreed about the importance of clean clothing. He would see that the word "clothing" was included in the Clause.

Questions in Parliament

Forth Bridge Incline

Mr. Hector Hughes (Aberdeen N.—Lab.), on October 27 inquired if the Minister of Transport & Civil Aviation was aware that during the last three years 30 trains had failed to negotiate the steep Forth Bridge incline, the last being on March 7, 1954, when the Aberdeen-London express train was, as a consequence of this obstacle, derailed; and what arrangements were in hand for removing this danger to life, limb and property.

Mr. John Boyd-Carpenter, in a written reply, stated: In accordance with a recommendation by the Inspecting Officer the permitted passenger engine loads have been reviewed and reduced where necessary to minimise the possibility of failure to negotiate the Forth Bridge incline; the loading of freight engines is still being examined. I have also been informed by the B.T.C. that marker lights are being installed in the Inverkeithing and North Queensferry tunnels, and their provision in other steeply graded tunnels is under review. In addition, the catch siding at the entrance to the North Queensferry tunnel is being moved farther back and its design improved.

Inverness-Wick-Thurso Line

The Minister of Transport & Civil Aviation was asked on October 27 by Sir David Robertson (Caithness & Sutherland—C.) if he would approach the B.T.C. with a view to taking over the railway line between Inverness, Wick, and Thurso for conversion into an autobahn, which would give a faster and cheaper service for passengers, mails, newspapers, and goods and relieve British Railways of heavy financial losses.

Mr. John Boyd-Carpenter wrote in reply: No. This line is being operated by the B.T.C. and an adequate road, A.9 and A.882, already exists.

Transit of Horses by Rail

Mr. Donald Chapman (Birmingham Northfield—Lab.) on October 28 asked the Minister of Agriculture, how many officials, and with what frequency, inspected horses at Maiden Lane Station, London, under the Transit of Horses Order; and what arrangements had been made with the B.T.C. police regarding enforcement of this order on the railways generally and prosecution in cases of violation.

Mr. G. R. H. Nugent (Joint Parliamentary Secretary to the Ministry of Agriculture) in a written reply stated: Maiden Lane Station is visited every weekday by an inspector of the L.C.C. and by my veterinary inspectors about twice a month. I understand from the Minister of Transport & Civil Aviation that the B.T.C. police, while not responsible for the enforcement of the Order, are fully instructed on its requirements for the carriage of livestock, including horses. Prosecutions under the Order would normally be instituted by the local authority.

Transport Levy

In a written reply on November 3 to Mr. Norman Dodds (Dartford—Lab.), Mr. John Boyd-Carpenter (Minister of Transport & Civil Aviation) stated that the total sum received from the transport levy up to the end of September was £3,800,000.

Disposal of Road Haulage Vehicles

Mr. P. Roberts (Sheffield Heeley—Nat. Lib. Con.) on November 3 asked the Minister of Transport & Civil Aviation whether he would institute legislation to give him greater responsibility with regard to the hand-over of vehicles to private contractors by the B.T.C. in view of the evidence of sabotage of vehicles which he had sent to him.

Mr. John Boyd-Carpenter stated in a written reply: There is no need for legislation. I have asked the Chairman of the B.T.C. for a report on the particular case which Mr. Roberts sent me, and I will write to him as soon as possible.

Staff & Labour Matters

Footplate Grades Pay Claims

The Railway Staff National Tribunal began its hearing on November 4 of the claims submitted by the A.S.L.E.F. and the N.U.R. for improved rates of pay for railway footplate grades. The hearing continued on November 5 when the proceedings terminated. The Chairman of the Tribunal was Sir John Forster, Q.C.; the other two members were Dr. W. H. Garrett, nominated by the B.T.C., and Sir Luke Fawcett, nominated by the unions.

Mr. J. G. Baty, General Secretary of the A.S.L.E.F., opening the case for the Society, outlined the developments which had taken place following the acceptance of Decision No. 15 of the Tribunal dated December 3, 1953, until the present day. Proposals for improved rates of pay for footplate staff, he said, had been submitted to the Commission in January, 1954, and these were identical with those on which the Tribunal were now asked to adjudicate.

A.S.L.E.F. Case

The A.S.L.E.F. representatives had made it abundantly plain to the Commission that they were seriously concerned at the anomalies in the wages structure. During the protracted negotiations the Society had awaited patiently the outcome of the discussions in the hope of a proper adjustment of differentials for locomotive men.

None of the proposals put forward by the Commission, he added, could give satisfaction under the terms of the December settlement. In these circumstances the A.S.L.E.F. had decided to submit its claims through the higher stages of the negotiating machinery. It was contended that the level of wage rates of locomotive men constitutes by far the most glaring and grievous anomaly in the whole wages structure, but in nine months of negotiation nothing acceptable had been offered by the Commission.

Mr. Baty referred to the responsible and exacting nature of the work performed by footplate men and to the skill which came from long and arduous training. The conditions in which the men had to work were, he went on, an important feature in the A.S.L.E.F. case for true relativity in the railway wages structure.

When the National Agreement was negotiated in 1919-20 there was set up a wages structure for railway staff in which the relative value of locomotive men was recognised, regard being paid to the special qualifications, high responsibilities, and peculiar circumstances attaching to this employment. The degree of relativity remained unchanged for a long period of time, but the various wage adjustments made since the last war has progressively distorted the wages structure.

The accompanying table shows the rates of pay claimed by the N.U.R. and A.S.L.E.F. respectively, together with the offer made by the British Transport Commission in an attempt to reach a settlement.

Cleaners

The A.S.L.E.F. claimed that the conditions in which the cleaner has to work justified a rate in excess of that proposed by the Commission, which was the minimum rate applicable to other minimum rated conciliation staff, e.g., porter. It was simply asking for the restoration of a principle applied before 1939.

For the driver and motorman it was claimed that a period of five years before reaching the maximum rate for the grade as applies at the present time is too long, having regard to the long years of apprenticeship. The maximum should be reached in the third year of service, a similar principle to apply in the case of the fireman.

In support of the rates claimed, reference was also made to the Ministry of Labour Index of Rates of Wages which shows an increase of 43 per cent comparing June, 1947, with September, 1954: this was the increase in the principal industries and services in the U.K. In the same period the maxmum rate of the driver had only increased by 29·3 per cent, while the increase would be 48·5 per cent if the A.S.L.E.F. claim were to be conceded.

Grade	N.U.R. Claim	A.S.L.E.F. Claim	B.T.C. Proposals
	s. d.	s. d.	s. d.
Cleaner	135 0	129 0	125 0 (*a*) 127 0 (*b*)
Fireman:			
1st year	157 6	143 0	137 0
2nd „	167 6 (max.)	153 0	140 0
3rd „		163 6 (max.)	143 0
4th „			147 0
5th „			152 0
6th „			156 0
Driver and motorman:			
1st year	180 0	177 0	164 0
2nd „	195 0 (max.)	191 0	168 0
3rd „		205 0 (max.)	172 0
4th „			176 0
5th „			180 0
6th			185 0

(*a*) commence at (*b*) after one year

As evidence of the low rates of pay of footplate staff it was contended that there was a gross wastage of as much as 12 per cent during the 12 months ended September, 1954.

N.U.R. Claim

On behalf of the N.U.R. Mr. J. Campbell, General Secretary, based his claim on the following main points:—(1) That the present maximum rate of pay of 178s. 6d. a week is an utterly inadequate rate for a top-rated locomotive driver; (2) that the rates of pay of firemen and cleaners are equally inadequate; (3) that locomotive men are amongst those skilled grades who are entitled to the added incentives envisaged in Clause 3 of the December terms of settlement; and (4) that inadequate rates of pay deter recruitment and retention of staff when competition for labour is so intense; (5) that the grades concerned are entitled to recognition of the increased efficiency attained with a considerably reduced staff; (6) that the grades covered by the claim are considerably worse off than they were in June, 1947; (7) that concession of the claim in full would still leave them in no better position than they were in June, 1947; and (8) that, from every point of view, the claim submitted was moderate.

Earlier Maximum Rate

Mr. Campbell said the ambition of the N.U.R. was the rate for the job and that there should not be an interminable wait from the commencement of his career as a driver or fireman until the maximum was reached. The N.U.R. claim was, therefore, that the driver and fireman should be paid the maximum for the grade after 12 months' service in the grade. If the present claim were conceded in full the driver and fireman would be in no better position relatively than they were in June, 1947, although the negotiations which led to the present hearing arose from the Commission undertaking to correct anomalies and give added incentives in desirable cases.

Reply by Commission

The reply to the claims of the two unions was given on behalf of the Commission by Mr. W. P. Allen, Chief of Establishment & Staff. He said that although both the N.U.R. and A.S.L.E.F. represent the footplate grades, their ideas of an appropriate wage structure differed considerably as evidenced by the claims submitted, and this different outlook on the part of the unions added to the difficulties of the Commission in dealing with this section of the staff.

It had been made clear in the discussions with the unions that the offer of 125s. a week (127s. after one year) for the minimum rated grades applied equally to the cleaner, and the offer was accepted by the N.U.R. The structure for the conciliation grades, other than footplate staff, which had been agreed upon, was based on these minimum rates. It would be quite illogical to place the engine cleaner on a higher rate than that applicable to other minimum rated grades.

Union Arguments Not New

The principles on which the unions had based their claims differed very little from those which had been advanced on previous occasions. A number of adjustments had been made in the rates of pay since 1948 on a percentage basis which had tended to restore to some extent the differentials which formerly existed between the various grades in the railway service. It was doubtful whether the economy of the country could face a complete restoration and certainly the railway section of the Commission's undertaking could not possibly meet it.

Actual Earnings

Reference was made to the excess of earnings over rates of pay arising from the application of the various conditions of service, such as night duty, Saturday afternoon payments, and examples of average earnings were quoted to show the amount actually taken home in the pay packet.

Particulars were given to show that the promotional prospects of footplate staff are good, which factor, it was contended, should be taken into account and placed in its proper perspective.

The reductions which had taken place in the numbers of footplate staff employed since 1948, it was claimed, had been brought about by several factors, amongst them the closing of unremunerative branch lines, reduction in the number of control relief sets, extension of diesel shunting locomotive and diesel light freight trains, and the better diagramming of enginemen.

Labour Turnover

The number of staff employed in 1948 was inflated as an aftermath of war conditions and it had since been adjusted consistent with the volume of work to be done. The labour turnover in the footplate grades was much less than applied in outside industries.

The rates of pay proposed in the offer made by the Commission were fair and just in every respect and in certain instances were generous; they bore appropriate comparison with all other grades covered by the December agreement and gave effect to the undertaking to improve differentials, where necessary, create incentives to promotion and to remove anomalies. The rates of pay as claimed by the Unions were unrealistic, and Mr. Allen in conclusion asked the Tribunal to say that the Commission offer to improve the rates of pay of footplate staff was right and to award accordingly.

East African Railways Multi-Racial Dinner-Dance

The first of what is intended to be a series of multi-racial dinner-dances was organised by the Commercial and Operating Departments of the East African Railways & Harbours Administration. The occasion marked the culmination of this year's Annual District Officers Conference, to which officers had travelled from all parts of Tanganyika, Kenya and Uganda.

Mr. D. D. Bartlett, Chief Operating Superintendent, and Mr. J. H. Collier-Wright, Acting Chief Commercial Superintendent, jointly presided. Major-General W. D. A. Williams, Commissioner for Transport, and Mr. A. F. Kirby, General Manager, E. A. R. & H., and Mrs. Kirby were the principal guests.

Mr. Bartlett referred to the Administration as the greatest undertaking in East Africa. The growth of the railway, port, marine, and road services since the East African Railways & Harbours was created in 1948 constituted a record of expansion unparalleled in railway history. This could not have been achieved without the co-operation, hard work and enthusiasm of all members of the staff, not only those in the Commercial and Operating Departments. It was a feature of their employment that the staff in those two Departments could contribute in many ways far more to relationships with the public than the staff of other departments because they came in contact with members of the public more frequently.

More than 220 members of the staff and their wives were attending a railway annual dinner for the first time, believed Mr. Bartlett. They included 146 European, 31 African and 55 Asian members of the staff and their wives.

Mr. Kirby, replying to the toast of the guests, proposed by Mr. Collier-Wright, announced with regret that the Administration was to lose the services of Mr. Bartlett, who had been appointed Deputy General Manager of the Malayan Railway. All would wish him success in his new position. Films shown included "Always Building a Greater East Africa" (the first film produced by the newly formed East African Railways & Harbours Film Unit).

Articulated Trains in Germany

The German Federal Railway is operating two articulated trains built on principles somewhat resembling those of the Talgo trains in Spain. They are the "Komet," which has been running 570 miles nightly, southbound and northbound on alternate nights, between Hamburg and Basle, and the "Senator," making the 670-mile round trip by day from Frankfort to Hamburg and back daily. During the first experimental period, these trains ran continuously from May 23 to July 30, and were then withdrawn for inspection and minor improvements, returning to service on October 2

The "Senator," with single-axle trucks between each pair of units, did well in the earlier weeks of its running, but then developed pronounced lateral oscillations at speed which proved trying to passengers; it is hoped that the slight modifications since made to the suspension will cure this trouble. Undue noise in running is being suppressed by sound-deadening equipment similar to that used in the Talgo trains.

The "Senator" leaves Frankfort at 6.57 a.m., and travelling via Gottingen and Hanover reaches Hamburg at 12.54 p.m.; on the return journey departure from Hamburg is at 4.52 p.m., Frankfort being reached at 10.49 p.m. The "Komet," which has proved so popular that an eighth coach has been added to the original seven, is the only German sleeping car with diesel propulsion. It leaves Hamburg at 8.15 p.m., and travelling by way of Kassel, Frankfort and Karlsruhe arrives at Basle Badischer Station at 8.6 a.m. and the Swiss station at 8.34 a.m., running thrice weekly; on the return journey departure from Basle is at 9.20 p.m. from the Swiss station, Hamburg being reached at 9.14 a.m.; this represents an acceleration of 35 min. on last summer's timing.

Notwithstanding its novel features of design, the "Komet" has not missed a single run during its trial period, and late arrivals at terminals caused by mechanical defects have aggregated only 30 min. The riding qualities have proved equal to those of the standard main-line coaches and sleeping cars. During the reconditioning period, the diesel engines of both the "Senator" and "Komet" have been equipped with superchargers, and these will permit maximum speeds to be increased from the present limit of 75 m.p.h. to 90 or 100 m.p.h., if deemed desirable, when track improvements have been completed.

Contracts & Tenders

The British Transport Commission has placed an order with the Pressed Steel Co. Ltd., Cowley, Oxford, for 195 20-ton bulk-grain vans. They are to be constructed at the firm's Linwood works, Paisley.

The London Transport Executive has ordered three prototype trains of tube stock and of a new design from the following manufacturers:—

Birmingham Railway Carriage & Wagon Co. Ltd.
Gloucester Railway Carriage & Wagon Co. Ltd.
Metropolitan-Cammell Railway Carriage & Wagon Co. Ltd.

British Railways, North Eastern Region, have placed the following orders:—

Tarslag Limited, Stockton-on-Tees: transfer of slag crushing plant, earthworks and foundations for buildings and machinery, Dinsdale
Buckton Limited, Ashton-under-Lyne: recovery of ballast, Brighouse Branch
Sovex Limited, Erith: automatic conveyor equipment, West Hartlepool Sleeper Depot
F. & J. Watkinson, Bradford: provision of concourse screen, and other work at Bradford Forster Square Station
Ruston & Hornsby Limited, Lincoln: transfer of slag crushing plant from Lackenby to Dinsdale; one Ruston diesel shunting locomotive
Arthur Robinson (Contractors) Limited, Middlesbrough: widening of bridge and construction of subway at Thornaby Motive Power Depot

British Railways, Eastern Region, have placed the undermentioned contracts:—

British Insulated Callender's Construction Co. Ltd., Kirkby: supply, delivery and erection of overhead line equipment for Shenfield-Chelmsford-Southend electrification
Drewry Car Co. Ltd., London, E.C.2: supply and delivery of nine diesel-mechanical shunting locomotives
Ruston & Hornsby Limited. Lincoln: supply and delivery of two diesel-mechanical shunting locomotives
Andrew Barclay, Sons & Co. Ltd., Kilmarnock: supply and delivery of ten diesel-mechanical shunting locomotives
Hunslet Engine Co. Ltd., Leeds, 10: supply and delivery of 16 diesel-mechanical shunting locomotives
John Willmott & Sons (Hitchin) Limited, Hitchin: reconstruction of the roof to the locomotive shed at Hornsey Motive Power Depot
Taylor Woodrow (Building Exports) Limited, London, W.1: supply, delivery and erection complete of an Arcon type steel-frame building for use as a road vehicle shop at Temple Mills Marshalling Yard
Caffin & Co. Ltd., London, W.C.2: track alterations, platform extension and construction of stores building at Leigh-on-Sea Station
Craven Bros. (Manchester) Limited, Stockport: supply and delivery of one heavy duty carriage and wagon wheel lathe for Temple Mills Wagon Shop
Tersons Limited, London, N.3: renewal of permanent way, Peterborough District
Ashwell & Nesbitt Limited, Leicester: replacement pipework for hot water washout plant and installation of pipework and mechanical underfeed stokers for pre-steaming plant at Colwick Motive Power Depot
Craven Bros. (Manchester) Ltd., Stockport: supply and delivery of one quartering machine and additional equipment for Stratford Locomotive Works

The Ministry of Works advertises the sale by tender of 24 tank wagons. See Official Notices on page 560.

The Special Register Information Service, Export Services Branch, Board of Trade, reports a call for ingot steel parts for railway wagons for Uruguay. The requirements are:—

240 ingot steel guides, for the centre of bogie wagons
24 ingot steel grease boxes for wagons
240 ingot steel pillars, for bogie wagons

The issuing authority is the Administracion de Ferrocarriles del Estado, Departamento de Proveeduria, Montevideo. A guarantee of $300 is required for maintenance of offers.

Tenders close on November 25. A copy of the specification in Spanish, with drawings, may be borrowed by United Kingdom firms on application to the Branch (Lacon House, Theobalds Road, W.C.1). Local representation is essential.

The Special Register Information Service, Export Services Branch, Board of Trade, reports that Remex S.A., Dolores No. 17, 3rd Floor, Apartado Postal 705, Mexico City, has informed the British Embassy at Mexico City that it has formed an associated company to handle general engineering agencies and would like to represent United Kingdom manufacturers of a number of items, including railway maintenance equipment and rolling stock.

The firm carries on business as manufacturers' representatives dealing mainly in chemicals and allied products. Manufacturers interested should send details of their offers direct to Remex S.A., quoting prices direct in U.S. dollars. If, at the same time, firms would send copies of their initial correspondence to the British Embassy (Commercial Section), Lerma 71, Mexico 5, D.F., P.O. Box 96 Bis, it would enable the enquiry to be pursued on their behalf.

The Special Register Information Service, Export Services Branch, Board of Trade, states that Messrs. Ramon and Rene Palme, owners of the commission agency firm, Ramon Palme Hno., S.A., of Carretera Mexico-Laredo 554, Mexico 4, D.F., have informed the British Embassy at Mexico City that they would like to act either as commission agents or exclusive distributors for United Kingdom manufacturers of the following goods:—

Boiler tube, seamless or welded
High pressure hydraulic tube
Steel dredger chains from ½ in. up
Iron coil-proof chain, from ½ in. up
General marine hardware and equipment, for small craft, especially such items as turnbuckles, wood, iron and steel blocks, anchors, etc.
Seamless steam tube and pipe in various sizes
Stainless steel bars in centreless ground
Machine tools, such as sharpeners, lathes, drills, milling machines
Grinding wheels
Rail equipment generally, such as rail bending machines

Ramon Palme Hno., S.A., was established in March, 1952, acting as commission and foreign manufacturers' agents. Its principal lines are general hardware, steel and steel products, tools, machine tools, wire ropes, and cables. It also owns and controls three hardware concerns in Mexico and holds agencies for United Kingdom, Swedish and United States firms. The firm has stated that if competitive prices are obtained, immediate orders will be forthcoming from the hardware concerns which it controls.

According to the Special Register Information Service, Export Services Branch, Board of Trade, the closing date for items 1, 9(a) and 9(b) of List FP/5-B (electric locomotives and e.m.u. stock for Calcutta) of the 1955-56 Indian Railways Procurement Programme has been postponed until January 3, 1955.

The Director General of Supplies & Disposals, New Delhi, is inviting tenders for the following:—

270 centre pivot wearing pieces
270 weights for screw couplings
2,160 guide bushes

Tenders are to be submitted to the Director General of Industries & Supplies, Shahjahan Road (Section SRI), New Delhi, quoting reference SRI/16930-E/II and will be received up to 10 a.m. on November 19.

The Director General of Supplies & Disposals, New Delhi, is inviting tenders for:—

150 rolled, weldless angle ring (for connecting smokebox tube plate to leading course of barrel)
150 solid rolled, angle ring (for connecting dome body and dome base on the second course of barrel)

Tenders are to be submitted to the Director General of Industries & Supplies, Shahjahan Road (Section SRI), New Delhi, quoting reference SRI/16936-E/IV and will be received up to 10 a.m. on November 23.

Forms of tender are only available for purchase in India from the Deputy Director General (Supplies), Directorate General of Supplies & Disposals, New Delhi; Director of Supplies & Disposals, Bombay or Calcutta; Deputy Director of Supplies & Disposals, Madras.

If the date for the receipt of tenders does not allow sufficient time for tenderers to obtain tender forms from India, they may submit their quotation to India in their own letter form or by telegram so long as all essential particulars are given and provided they simultaneously apply for the tender forms and return them duly completed as quickly as possible on the basis of advance quotations already submitted.

A copy of the tender form can be examined at the India Store Department, 32-44, Edgware Road, W.2, on application to the "CDN" branch. The drawing can be seen at the offices of Hodges Bennett & Company, 59-60, Petty France, London, S.W.1, from whom copies may be obtained at a fixed price per sheet.

ROAD HAULAGE DISPOSALS.—The Road Haulage Disposal Board and the British Transport Commission have announced interim results of the tendering for units in List R.4, which was advertised on September 8. Of the general units, tenders were accepted for 90 (298 vehicles), and all tenders for 29 units (114 vehicles) were rejected. No decision had been reached on four units (17 vehicles). Tenders were accepted fortwo contract hire units (42 vehicles) and tenders for one unit (three vehicles) were rejected. The units in List R.4 were without premises.

Notes and News

Vacancies for Civil Engineers.—Vacancies exist for three qualified civil engineers for service in the chief engineer's department of the Rhodesia Railways. See Official Notices on page 560.

Vacancies for Electrical Engineers.—Messrs. Merz & McLellan, Consulting Engineers, invite applications from electrical engineers with experience of railway electrification overhead line work. See Official Notices on page 560.

Works Manager Required.—Applications are invited for the post of works manager, required for a rolling stock works in the Far East specialising in the manufacture of steel railway wagons and carriage underframes. See Official Notices on page 560.

Designing Draughtsman, Grade 2, Required. — A designing draughtsman, grade 2, is required by the East African Railways & Harbours Administration, for one tour of 40 to 48 months with prospect of permanency. See Official Notices on page 560.

Workshop Supervisor Required.—Applications are invited for the post of workshop supervisor, diesel-electric and electrical, required by the Railway Department, Gold Coast local Civil Service, for two tours of 15 to 18 months each. See Official Notices on page 560.

Assistant Electrical Engineer Required.—Applications are invited for the post of assistant electrical engineer between 30 and 35 years of age required by the Government of Nigeria, Railway Department, to be responsible to the electrical engineer for all electrical branches of the Department. See Official Notices on page 560.

Laycock Engineering Limited, London Office.—Laycock Engineering Limited announces the establishment of a London office for the firm's Railway Division at 141-143, Abbey House, Victoria Street, Westminster, London, S.W.1. Telephone No. Abbey 5493-4. The London area Sales Manager is Mr. H. B. White.

Southern Railway of Peru Taxation.—The directors of the Peruvian Corporation announce that on October 15 in the Chancery Division of the High Court the appeal of the Crown was allowed from the decision of the Special Commissioners of Income Tax, which had permitted the Southern Railway of Peru to charge against its profits and gains for income-tax purposes the amount which the company claimed had accrued in each year in respect of social service obligations. The matter of an appeal against this decision is under consideration.

Road Haulage Loss Estimate.—Speaking in Birmingham recently, Mr. James Barrie, National Chairman of the Road Haulage Association, said that hauliers were amazed at the high figure of £20,000,000 given by Mr. John Boyd-Carpenter, Minister of Transport & Civil Aviation, as his estimate of the loss from the sale of road haulage vehicles. Mr. Barrie said that the B.T.C. seemed to have obtained an average price of some £1,250 for vehicles 10-20 years old which, under any normal system of book-keeping, would have been written off completely. The Commission was making a very handsome profit indeed. The Association would like to know how the Minister arrived at his figure, which seemed to be a mere guess. It was hoped that an early opportunity would be taken of revising the estimate.

Five-Inch Spider Found in Wagon.—A 5-in. spider, one of the most poisonous species, is reported to have been found in a box wagon at Deighton, Huddersfield. It was sent to the local medical officer of health, and is thought to have come from Brazil in a banana cargo.

New Type Train Indicator for Liverpool Street.—A new type suburban train indicator has been installed on Platform 1 at Liverpool Street Station, Eastern Region. The indicator is box shaped, and incorporates the platform number and a new system of roller blinds to show the departure

New train departure indicator on No. 1 Platform, Liverpool Street

time, both internally illuminated. Below these the destination is shown, with the various stopping places, which are mounted on six-sided rollers so as to include a number of routes. Lighting of the rollers is by hidden fluorescent tubes. A blackboard panel for emergency announcements is provided below. Construction was undertaken by Beck & Pollitzer (Contracts) Limited, to the requirements of the Public Relations & Publicity Officer, Eastern Region.

A.B.T.A. Convention.—The annual convention of the Association of British Travel Agents will be held at Church House, Westminster, on November 24, 25, and 26. Mr. James Maxwell, Chairman of the A.B.T.A., and Sir Arthur Morse, Chairman of the British Travel & Holidays Association, will address the opening session commencing at 10.30 a.m. The railways session is at 2.45 p.m. on November 25.

"I Like to See Things Burn."—A youth of 17, who was said to have caused damage totalling £18,000 by fire raising and malicious damage, has been sent to Borstal at Liverpool Assizes. He had pleaded guilty to setting fire to railway carriage sheds at Woolton Road, Allerton, Liverpool, on June 11, to setting fire to a coach in the same sheds on June 18, and to a charge of housebreaking. He had made a statement to the police in which he said: "I like setting fire to things. It is only at weekends when I have matches that I set fire to places. I just like to see things burn."

The Transportation Club.—Sir Arthur Griffin, who retired recently from the chairmanship of the Rhodesia Railways board, and was formerly General Manager of the Rhodesia Railways and, previously, of the North Western Railway of India, will be the principal guest at a dinner to be given by the Transportation Club at 44, Wilton Crescent, S.W.1, next Wednesday, November 17. The principal guest at the Club dinner on December 15, as stated in last week's issue, will be Mr. John Boyd-Carpenter, Minister of Transport & Civil Aviation, and Sir Brian Robertson, Chairman of the British Transport Commission, will also be present. A cocktail party will be held at the Club at 44, Wilton Crescent, on December 8.

Henry Meadows Exhibits at Olympia.—A selective range of petrol and diesel engines will be displayed by Henry Meadows Limited at the Public Works Exhibition to be held at Olympia, London, W.14, on November 15-20. The exhibits will include a 6DJ970 six-cylinder, direct-injection water-cooled, diesel-engine developing 150 b.h.p. at 1,500 r.p.m., or with supercharger 220 b.h.p., at 1,500 r.p.m., and a 6DJ630 six-cylinder, four-stroke cycle, direct-injection, cold-starting water-cooled diesel-engine developing 100 b.h.p. at 1,600 r.p.m. Also displayed will be two four-cylinder diesel-engines developing 66 b.h.p. at 1,600 r.p.m. and 65 b.h.p. at 1,800 r.p.m., respectively, with a four-cylinder petrol engine developing 42 b.h.p. at 1,800 r.p.m.

L.M.R. (London) Dramatic Society.—With its autumn production of "The Sport of Kings," a comedy by Ian Hay, at the Fortune Theatre, London, on November 4, 5, and 6, the L.M.R. (London) Dramatic Society celebrated the 21st anniversary of the formation of the Society. It had decided to commemorate the occasion with a revival of this comedy which was the first to be produced by the Society at the Cripplegate Institute, in the autumn of 1933. The players gave their usual excellent performances, and the production was in the capable hands of Mr. Jack Legg. The L.M.R. (London) Orchestral Society, under the direction of Mr. J. Grindley, entertained the audience, which included many officers of the London Midland Region, before the play and during the intervals. The Society's next presentation will be "Figure of Fun," by Andre Roussin, at the Rudolf Steiner Theatre, London, W.2, on May 5, 6 and 7, 1955.

Road Haulage Disposals: Scottish List.—In the special Scottish List published on September 29, almost all the remaining lorries to be disposed of in Scotland under the Transport Act, 1953, have been put on offer, and tenders must be received by November 10. In a statement made recently, Sir Malcolm Trustram Eve, Chairman of the Road Haulage Disposal Board, said: "I trust that this is clearly realised. We have now come nearly to the end of the lorries available for sale in Scotland and we are anxious that nobody who may be interested should be unaware of the present opportunity or should think that there may be further vehicles to come in any numbers. We have already offered

some 1,300 vehicles in Scotland in the 'small man' Lists, and the majority have found buyers. List 8, which will be published on November 3, will contain a number of small units, but they will be re-offers of vehicles from the 1,300 which were not sold on previous offers. In the special Scottish List we have attempted to cater for those who may want to buy a larger lot."

Extension in Siberia.—The first 425 miles of a new branch of the Trans-Siberian railway from Taishet, near Stalinsk, to the River Lena, has been opened.

Sales of Transport Units.—The British Transport Commission has now issued a further list, No. 8, of transport units for sale. This is an extensive list consisting almost entirely of small units, many of which contain one vehicle only. Units containing the whole or parts of units previously offered are indicated, and form a large percentage of the new list. Tenders must be received by 10 a.m. on December 8, 1954, or, if land and buildings are included in the unit, by 10 a.m. on December 22.

East African Railways & Harbours Films.—Mr. Malcolm Archer, Public Relations Officer of East African Railways & Harbours, who has now returned to East Africa after a brief visit to this country, on Thursday evening last showed four short films at the London offices of F. C. Pritchard, Wood & Partners Limited. The films, two of which were in colour, had been taken by the East African Railways & Harbours film unit and showed the progress which has been made in developments on the transport system and the part which the railways are playing in the development of the territory.

Henry Wiggin & Co, Ltd.: Zenith Works Jubilee.—A luncheon was held recently to celebrate the silver jubilee of the founding in Glasgow of the Zenith Works of Henry Wiggin & Co. Ltd. The chair was taken by Viscount Weir of Eastwood, Chairman of G. & J. Weir Limited and a member of the board of the International Nickel Co. of Canada Ltd. Sir Andrew McCance, Deputy Chairman of Colvilles Limited, proposed the toast to the Zenith Works. Mr. A. B. Graham, director of Henry Wiggin & Co. Ltd., who has been in charge of operations at the works since their inception, spoke of the fine labour relations existing there, and Dr. J. F. Thompson, Chairman of the International Nickel Co. Ltd., paid tribute to the British workman.

Demonstration of Pneumatic Tools.—A demonstration of various types of compressed air tools, including chipping and riveting hammers, grinders, impact wrenches, air drills and valve grinders, was given recently by the Atlas Diesel Co. Ltd., of Wembley. Lightweight construction is a feature of the equipment, while in the chipping hammers the older method of using a cap type retension has been superseded by using a built-in steel wedge-type retainer which fits into a groove on the chisel. During the demonstration of the LBB-41 air drill which is designed for use without drilling pillar or other mechanical support, a $\frac{1}{2}$-in. dia. hole was drilled in a $\frac{3}{8}$-in. thick mild-steel channel in 38 secs. Also demonstrated was the MT-503, 8-cwt. air hoist, a feature of which is the close control obtainable over lifting and lowering speeds. A reversible vane-type air motor provides positive control and in the case of lowering acts as a brake. The drive through a worm gearing is such that the hoist will hold the load. In 1948, the Atlas Diesel Co. Ltd. disposed of its diesel engine interests to Nydquist & Holm A. B., Trollhättan, Sweden, and has since directed its activities entirely to compressed air equipment, mine loaders, rock drills, engineers' tools, paint-spraying equipment, and so on.

Nimonic 90 for Springs.—The Nimonic series of high-temperature alloys are used for moving blades in gas turbines. Their use in other fields, however, is rapidly extending where high strength at high temperatures is required. Typical of such applications is the use of Nimonic 90 for springs operating at extreme temperatures. A recent data sheet published by Henry Wiggin & Co. Ltd., presents, in convenient form, tabular data of use to the designer which includes physical and mechanical properties. Copies may be obtained from the Publications Department, Thames House, Millbank, London, S.W.1.

Heenan & Froude Limited Dividend.—The directors of Heenan & Froude Limited, have recommended payment of a final ordinary dividend for the year ended August 28, 1954, of 12½ per cent, compared with 10 per cent last year. This makes a total of 17½ per cent (15 per cent) for the year. Group net profits for the year, before taxation, were £395,657 (£367,113) and after taxation £167,199 (£154,628). After appropriations including £100,000 to general reserve (same), the balance carried forward is £60,747 (£61,945).

Evening Classes for London Midland Region Staff.—Nearly 5,000 members of British Railways, London Midland Region, will attend evening classes this winter. They include clerks, stationmasters, gangers, and firemen, and will take courses in signalling, railway engineering, book-keeping, stores management, and many other subjects which will help them in their work and in advancement in the railway service. Classes will be held at over 40 centres, including Birmingham, Crewe, Derby, Liverpool, London, and Manchester. In addition there will be correspondence courses for those unable to attend the centres. Fees are paid by the British Transport Commission and text-books are provided. Examinations will be held at the end of the winter and prizes awarded to successful students.

Vacuum Oil Co. Ltd. Results.—The balance of the trading account of Vacuum Oil Co. Ltd. for the year ended December 31, 1953, was £301,051, compared with £401,469 for the previous year. After deduction of depreciation, £624,373 (£145,046) and interests on loans amounting to £391,140 (£82,755), and other items, there was a loss for the year of £761,625 (£77,401 profit). The balance brought forward from the previous year was £1,384,065 (£1,263,743) and the balance carried forward was £614,940. In his statement issued with the accounts, the Chairman, Mr. J. C. Gridley, points out that the deficit for the year was occasioned largely by the fact that the Coryton Refinery operated at a substantial loss, augmented by loss on crude-oil freighting. These losses, when added to depreciation and interest charges, more than offset the satisfactory marketing and other manufacturing revenues of the company. This position, he says, is likely to be reflected in the results for 1954. Production at the plants at Birkenhead and Wandsworth is regarded as entirely satisfactory, and a similarly optimistic view is taken of the marketing activities of the company.

Forthcoming Meetings

Until end of year.—"Popular Carriage" Exhibition (Two centuries of carriage design for road and rail) in the Shareholders' Meeting Room, Euston Station, London, N.W.1. Weekdays 10 a.m. to 7 p.m.; Sundays 2 to 7 p.m.

November 12 (*Fri.*).—Institute of Transport, North Staffordshire Group, at the Grand Hotel, Hanley, at 6.30 p.m. Paper on "Public Relations," by Mr. George Dow.

November 13 (*Sat.*).—Stephenson Locomotive Society, North-Western Area, at the Manchester Geographical Society's Rooms, Deansgate, at 6.15 p.m. Talk on "An enthusiast recollects," by Mr. Stewart Dewsbery.

November 15 (*Mon.*).—British Railways, Southern Region, Lecture & Debating Society. Silver Jubilee Celebration Dinner at the Strand Corner House, London, W.C.2, at 6.30 p.m.

November 16 (*Tues.*).—Institute of Transport, Metropolitan Graduate & Student Society, at 80, Portland Place, London, W.1, at 6.15 p.m. Annual general meeting followed by paper on "The Transport Tribunal" by Mr. H. W. Brooksbank.

November 16 (*Tue.*).—Institute of Transport, Scottish Section, at the North British Station Hotel, Edinburgh. Paper on "The work of the Railway Inspectorate," by Brigadier G. A. Langley.

November 17 (*Wed.*).—Permanent Way Institution, at the headquarters of the British Transport Commission, 222, Marylebone Road, London, N.W.1, at 6.30 p.m. Paper "Railway news and views" by Mr. B. W. C. Cooke.

November 17 (*Wed.*).—Institution of Locomotive Engineers, at the Institution of Mechanical Engineers, 1, Birdcage Walk, London, S.W.1, at 5.30 p.m. Paper on "A modern hydraulic drive for locomotives," by Mr. R. H. Fett.

November 17 (*Wed.*).—Institution of Railway Signal Engineers, at the Institution of Electrical Engineers, Victoria Embankment, London, W.C.2, at 6 p.m. Informal discussion.

November 17 (*Wed.*).—Railway Students' Association at the London School of Economics & Political Science, Houghton Street, Aldwych, W.C.2, at 6.15 p.m. Paper on "Relations within the passenger transport industry," by Mr. J. E. M. Roberts. Mr. A. B. B. Valentine will be in the chair.

November 18 (*Thu.*).—British Railways, Western Region, Lecture & Debating Society, in the Headquarters Staff Dining Club, Bishop's Bridge Road, Paddington, W.2, at 5.45 p.m. Paper on "The Stock Exchange and the Railways," by Mr. E. R. Althans.

November 19 (*Fri.*).—Institute of Transport, Tees-side Section, at the Cleveland Scientific & Technical Institution, Middlesbrough, at 7 p.m. Paper on "The future of railway passenger services," by Mr. K. A. Kindon.

November 20 (*Sat.*).—Stephenson Locomotive Society, Liverpool Centre, at 7.30 p.m., in the Conference Room, Central Station. Paper "The Churchward period on the G.W.R.," by Mr. G. H. W. Clifford.

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November 20 (*Sat.*).—Permanent Way Institution, East Anglia Section, at Ipswich. Annual lunch and annual general meeting.

November 22 (*Mon.*).—Stephenson Locomotive Society, Midland Area, at 71, Edmund Street, Birmingham, at 7.15 p.m. Paper on "Locomotive performance," by Dr. W. A. Tuplin.

November 22 (*Mon.*).—Swindon Engineering Society, at the Arts Centre, at 7.30 p.m. Lantern lecture on "Switzerland's amazing railways," by Mr. Cecil J. Allen.

November 23 (*Tue.*).—British Railways, Southern Region, Lecture & Debating Society, at the Chapter House, St. Thomas' Street, London, S.E.1, at 5.45 to 6 p.m. "The pictorial poster—a demonstration in oils," by Mr. Jack Merriott, R.I., and Mr. F. D. Y. Faulkner.

November 23 (*Tue.*) to November 25 (*Thu.*).—Scientific Instrument Manufacturers' Association, Midlands Electronics Exhibition, in the Chamber of Commerce Hall, Birmingham.

Railway Stock Market

There again has been a substantial volume of business passing in stock markets, and buying interest was widely spread. British Funds attracted increased attention on the view that War Loan and other undated stocks are moderately priced in comparison with some leading industrial shares, yields on which have been reduced to little more than 3 per cent by the recent strong advance in prices. It is argued that the upward trend in markets has not yet reached its peak and that over the next few months both British Funds and industrial shares are likely to move higher. Consequently there is very little selling despite the big gains represented by the rise in market values.

A feature this week has been good demand for shares of locomotive builders and engineers, which recorded a general advance in anticipation of the coming announcement of plans for re-equipment and modernisation of the railways. It is realised that benefits from this programme will not accrue to earnings of the locomotive building and engineering companies for some while, but it means that the industry should have a good volume of work over a long period. This would have other benefits, because a larger volume of business tends to reduce production costs and enable companies to compete more favourably in export markets. It may be argued that the rise in share values discounts the future rather fully, and that no early increase in dividends is likely in most cases. On the other hand, some shares of locomotive builders and engineers offer not unattractive yields despite their good rise.

Beyer Peacock, for example, which have advanced from 43s. 3d. a week ago to 46s. 4½d., still yield 6¼ per cent. Moreover, despite a rise from 30s. to 34s. 1½d., Birmingham Carriage yield over 5¾ per cent on the basis of last year's 10 per cent dividend. Compared with a week ago, Vulcan Foundry have come up from 28s. 6d. to 30s. 6d. and North British Locomotive from 16s. 7½d. to 18s. 3d. Wagon Repairs from 16s. 7½d. to 18s. 3d. Gloucester Wagon 10s. shares rose from 17s. 6d. to 18s. 9d. Wagon Repairs 5s. shares advanced on balance from 13s, 10½d. to 16s. 3d. and Charles Roberts 5s. shares were active around 9s. 9d., while elsewhere, G. D. Peters rose strongly to 26s. 3d. Shares of British Insulated and other cable companies were firm. Shares of electric equipment makers, including Associated Electrical at 62s. 9d., English Electric at 55s. and G.E.C. at 58s. 9d. were also firm, partly because of the coming news of the railway re-equipment and modernisation programme.

Overseas and foreign railway stocks showed no outstanding feature apart from the continued activity and strength of White Pass, which touched $39, but later reacted to $38, which, however, compares with $37 a week ago. Vague talk of a take-over offer has been revived and has led to the big rise in price in the past two weeks, but the rumour is unconfirmed. White Pass convertible debentures naturally continued to move up with the shares, and have changed hands up to £130, a gain of £10. The loan stock gained a point at £34.

Canadian Pacifics have moved up on the week from $48 to $49⅛, while the preference stock strengthened from £70¼ to £71¼ and the 4 per cent debentures from £91¼ to 92½.

Midland of Western Australia stock was again 24 with the first debentures 92½ and the second 42. Emu Bay 5 per cent debentures were again 44½.

Among foreign rails, Antofagasta stocks were the feature, but after an advance on vague talk of take-over possibilities, lost part of their rise. It is realised that, based on the value of assets, both the preference and ordinary stocks must be worth much more than their current market prices. At 8½, Antofagasta ordinary stock was fractionally higher, while the preference stock at 50 was a point higher on balance. United of Havana second income stock eased to 35¼, and the consolidated stock remained at 5. Dorada ordinary stock was neglected and unchanged at 80. Paraguay Central 6 per cent debentures kept at 59, while Costa Rica second debentures held their rise to 57½.

Brazil Rail bonds kept at 7½ and San Paulo units at 3s. 4½d. Nitrate Rails shares were 19s. 3d. and Taltal Rail shares strengthened to 14s.

Engineering issues showed mixed movements. Vickers came back a few pence at 39s. 1½d., Babcock & Wilcox at 74s. lost part of their recent advance, but Ruston & Hornsby were higher at 59s. 3d. and T. W. Ward at 60s. After the good impression created by the results, Tube Investments rose from 74s. 6d. to 76s. 9d. Guest Keen, however, came back to 67s. following the unchanged interim dividend. Steel shares were less firm because buyers are awaiting the impending Dorman Long issue. At 22s. 6d. shares of the latter yield nearly 7⅛ per cent on an 8 per cent dividend basis.

OFFICIAL NOTICES

The engagement of persons answering Situations Vacant advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she, or the employment, is excepted from the provisions of the Notification of Vacancies Order, 1952.

WORKS MANAGER required for Rolling Stock Works in the Far East specialising in the manufacture of Steel railway wagons and carriage underframes. Commencing salary equivalent to £188 monthly. Provident Fund, free house, car, medical attention and passages for the family. Applicants, who should have had experience in a similar capacity, should apply, in writing, to Box 420, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

MERZ and McLellan, Consulting Engineers, invite applications from electrical engineers with experience of Railway Electrification overhead line work. Applicants should hold an engineering degree or have undergone a student or apprenticeship course on a railway or with one of the major contractors They should have obtained practical experience of erection of railway overhead line structures and equipment. Salary according to age, qualifications and experience. Staff pension scheme Apply stating age, education, training qualifications and institution membership to Merz and McLellan, Milburn, Esher, Surrey.

WORKSHOP SUPERVISOR (DIESEL-ELECTRIC AND ELECTRICAL) required by RAILWAY DEPARTMENT, GOLD COAST LOCAL CIVIL SERVICE for two tours of 15/18 months each. Consolidated salary in scale £990 rising to £1,230 a year. Gratuity at the rate of £100/£150 a year. Outfit allowance £60. Free passages. Liberal leave on full salary. Candidates must have served an apprenticeship preferably on heavy diesel-electric sets, and must have an adequate knowledge of Alternators and D.C. motors. They must possess O.N.C. in Mechanical or Electrical Engineering, be able to read and understand drawings and electrical wiring diagrams and have experience of maintenance in Workshops where H.T. current is used. Experience of the running maintenance of diesel-electric sets is most desirable. Write to the Crown Agents, 4, Millbank, London, S.W.1. State age, name in block letters, full qualifications and experience and quote M2C/40406/RA.

DESIGNING DRAUGHTSMAN, GRADE II, required by the EAST AFRICAN RAILWAYS AND HARBOURS ADMINISTRATION for one tour of 40/48 months with prospect of permanency. Salary scale (including temporary allowance of 35 per cent of salary) £958, rising to £1,012 a year. Free quarters or an allowance in lieu. Outfit allowance £30. Free passages. Liberal leave on full salary. Candidates must have served a full apprenticeship to locomotive or mechanical engineering and have had mechanical experience with British Railways or a locomotive builder. They must have at least three years Drawing Office experience in the design of locomotives and their components, and must also have experience of the Mechanical Handling equipment in use at ports and railway depots. Write to the Crown Agents, 4, Millbank, London S.W.1. State age name in block letters, full qualifications and experience and quote M2A/30519/RA.

RHODESIA RAILWAYS VACANCIES FOR CIVIL ENGINEERS. Vacancies exist for three qualified CIVIL ENGINEERS for service in the Chief Engineer's Department of the Rhodesia Railways. Preferably single men under the age of 25 years will be considered but married men not exceeding that age may apply. Preference will be given to applicants with railway experience. A degree in Civil Engineering and/or Corporate Membership of the Institution of Civil Engineers is essential. The grades of Junior and Assistant Engineer have salary scales between the limits of £586 and £1,460 per annum, with incremental notches mainly of £40 per annum and the commencing salary would be determined in accordance with age and experience. The vacancies are for appointment to the Temporary Staff in the first instance, but transfer to the Permanent Staff may be made to fill vacancies and on the recommendation of the Chief Engineer. Vacancies may occur later for members of the Permanent Staff for the grade of District Engineer by selection within the scale of £1,350 to £1,750 per annum. All salaries are enhanced by a variable cost of living allowance, which at present is 20 per cent on basic rates. Full particulars may be obtained from the London Agent, Rhodesia Railways, 241, Salisbury House, London Wall, London, E.C.2.

GOVERNMENT OF NIGERIA ASSISTANT ELECTRICAL ENGINEER, RAILWAY DEPARTMENT. To be responsible to the Electrical Engineer for all electrical branches of the Department, viz. Transformer Sub-Station, maintenance and repairs of all electrical equipment in Workshops, House wiring and maintenance, Train Lighting, Wharf Plant, small power stations at outside Depots, and station and yard lighting where provided. Appointment is either pensionable on probation in the salary range £910—£1,560 per annum gross, or on contract in the range £1,116—£1,898 per annum gross plus a gratuity of £150 per annum payable on satisfactory completion of contract. Free 1st Class passages for the officer, his wife, and an annual maintenance allowance of up to £75 each is payable in respect of a maximum of two children. Furnished quarters provided if available at low rental. Leave is granted at the rate of 7 days per completed month of resident service. Candidates, between 30 and 35 should be Associate Members of the Institution of Electrical Engineers, or have passed or be exempt from Parts A and B of the Institution's examination, and have served an apprenticeship with a reputable Electrical Engineering firm. They should have had experience in Workshops and Drawing Office with particular emphasis on installation of H.T. and L.T. Power equipment and distribution Systems, and have had some administrative experience. Apply in writing to the Director of Recruitment, Colonial Office, Great Smith Street, London, S.W.1, giving briefly age qualifications and experience. Mention the reference number (BCD 110/14/030).

SALE BY TENDER.—Twenty-four RAIL TANK WAGONS each approximately 25 tons capacity in secondhand condition. Apply for Tender documents to Controller of Supplies, Ministry of Works, (Disposals, Ref. T.W.), Great Westminster House, Horseferry Road, London, S.W.1, not later than November 30 1954.

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